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State of California
The Resources Agency

Department of
Water Resources



Wind in California

Bulletin No. 185
January 1978



ABOUT THE COVER: Windmills by the millions have been pumping water for rural America many years. A goal for California is to provide percent of our electrical energy from the wind within the next 10 years.

Department of
Water Resources

Bulletin No. 185

Wind in California

January 1978

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Huey D. Johnson
Secretary for Resources

Edmund G. Brown Jr.
Governor

Ronald B. Robie
Director

**The Resources
Agency**

**State of
California**

**Department of
Water Resources**

Table of Equivalents

LENGTH

1 foot = 0.3048 metre
 1 metre = 1 meter
 1 metre = 39.37 inches = 3.2808 feet
 1 mile = 1.6093 kilometres
 1 kilometre = 3 280.8 feet = 0.62137 mile
 1 degree latitude = 111.1 kilometres

VELOCITY

1 mile per hour = 1.467 feet per second = 0.447 metre per second = 1.61 kilometres per hour = 0.868 knot
 1 metre per second = 3.600 kilometres per hour = 1.940 knots = 2.236 miles per hour
 1 knot = 1.152 miles per hour = 1.853 kilometres per hour = 0.515 metre per second

PRESSURE

1 inch mercury (in. Hg) = 25.4 millimetres Hg = 33.8640 millibars = 3.4 kilopascals
 1 millimetre mercury = 0.03937 in. Hg = 1.3332 millibars
 1 millibar = 0.02953 in. Hg = 0.75006 millimetre Hg = 100 pascals

TEMPERATURE

Degrees Celsius = degrees centigrade
 Degrees Kelvin = degrees Celsius + 273
 Degrees Celsius = $5/9$ (degrees Fahrenheit - 32)
 Degrees Fahrenheit = $9/5$ degrees Celsius + 32
 Degrees Rankine = Degrees Fahrenheit + 460

Reference Atmosphere - Pacific Missile Range, Point Mugu

Altitude Feet	Altitude Metres	Pressure Millibars (mb)	Temperature Degrees K	Density kg/m ³	Relative Humidity Percent	Vapor Pressure mb
0	0	1019	286	1.237	81	12
820	250	989	284	1.206	84	11
1640	500	960	285	1.170	73	10
2461	750	932	286	1.132	48	7
3281	1000	905	287	1.097	27	5
4921	1500	852	285	1.039	22	3
6562	2000	803	283	0.986	18	2
8202	2500	755	281	0.936	17	2
9843	3000	711	278	0.890	17	2

FOREWORD

Bulletin No. 185, "Wind in California", is presented in response to a continued need for information on winds. It is an update of a study begun in late 1950s to examine alternative energy sources. The former study, "Winds in California," proved to be useful in a broad range of environmental planning activities. Most of the data in both publications were taken from observations at airports, air pollution study areas, and, in this report, wind power prospecting areas as well.

The bulletin summarizes 15 million hourly wind observations at 220 stations in California. It discusses the history and nature of wind measurements and occurrence in California.

The objective of Bulletin No. 185 is to summarize readily available wind data in California in a convenient volume. This bulletin represents a first step in assessing the wind power potential for the State of California.

In recent years, the potential for wind generation of electricity has been identified by various government studies. Large-scale demonstrations of this technology are currently being conducted in Europe and the United States.

The Department of Water Resources is currently working with the California Energy Resources Conservation and Development Commission to analyze potential favorable sites for large-scale generation of wind electric power. The potential of wind energy in California is significant and technologies to capture it represent a viable, reliable source of energy for the State Water Project.

Future studies of the Department of Water Resources will evaluate the potential of wind technology for implementation by the Department.



Ronald B. Robie, Director
Department of Water Resources
The Resources Agency
State of California

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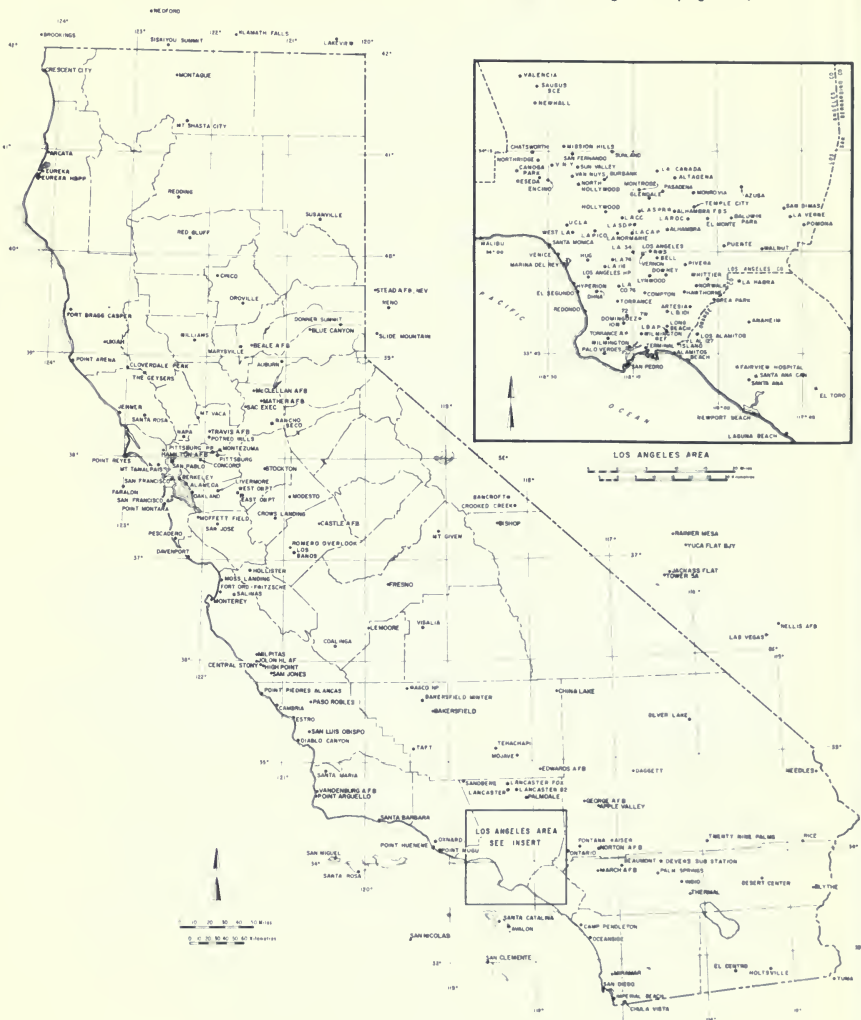
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California Department of Transportation
Sacramento Municipal Utility District
Southern California Edison Company
South Coast Air Quality Management District
California Air Resources Board

The Department of Water Resources is especially grateful for the work of Arndt Lorenzen and Freeman Smith of the Air Resources Board, who have provided data from the Air Resources Board's extensive files of surface winds.

We also acknowledge the contributions of Captain Percy Edwards, McClellan Air Force Base, and James I. Lerner, Energy Resources Specialist with the Energy Resources Conservation and Development Commission, who offered guidance in the preparation of this bulletin. The helpful reviews of Arnold Court, Professor of Climatology, and Susan Norsfall, both of California State University, Northridge; Jens Pohl, Professor of Architecture, California Polytechnic State University, San Luis Obispo; and Albert Miller, Professor of Meteorology, San Jose State University are especially appreciated.

FIGURE 1. LOCATION OF WIND SUMMARIES, SEPTEMBER 1977
220 Stations with Wind Records Summarized in this Bulletin
(See Table 1 for alphabetical listing; summaries begin on page 47)



INTRODUCTION

Wind is generated from solar energy. The sun heats the earth's surface, causing air to expand and develop regional pressure gradients. These pressure gradients store energy which wind relieves, converting static air pressure differences to dynamic energy.

With energy becoming more scarce and expensive, wind power is being reexamined as a potential clean, renewable source of energy. Wind energy neither causes air pollution nor produces waste heat to dispose of in rivers, nor does it require cooling water. The energy source is renewable in that it is derived from the sun, and the development of wind power does not deplete the solar "resource".

Purpose

This report summarizes existing wind records in California. The data indicate that:

- Peak wind velocities in California are generally associated with winter-type storm fronts, whereas the strongest sustained winds occur in the summer with maximum sunshine.
- California's desert areas experience both their highest peak winds and their highest sustained winds in the summertime.
- Higher elevation stations experience the highest sustained winds, as well as their peak winds, in the wintertime.

Many of the wind records summarized here comprise well over a quarter million

hourly (28.5 years) observations, whereas other records are relatively short. One year is generally the minimum length of record for this report.

This bulletin is an update of the 1971 and the 1960 editions of a Department of Water Resources office report titled "Wind in California". Keeping a current file of this type data is an ongoing activity of the Department of Water Resources and the Air Resources Board. We would like to learn of additional mean annual wind data that readers would be willing to share for the next edition of "Wind in California". Anyone desiring to contribute wind data can contact James D. Goodridge, Department of Water Resources, P. O. Box 388, Sacramento, CA 95802; or Arndt Lorenzen or Freeman Smith, Air Resources Board, P. O. Box 2815, Sacramento, CA 95814.

Scope

Bulletin No. 185 summarizes readily available data on hourly wind speed and direction and presents an index of locations of unsummarized wind data as well as data on extreme annual wind speeds. These data are basically once-an-hour observations of wind, mainly for airport locations, as shown in Figure 1.^{1/} The report also contains some records from stations with less than once-an-hour observations and other records that are actual average hourly wind speeds. Most of these records are arranged in 16 compass points and into various wind speed classes. Some of the summaries are in eight or twelve compass points. The class size and the units used are variable, expressing the needs of those who originally prepared them. None of the wind speed direction data reported here were

^{1/} Figure 1 appears on the opposite page. For the reader's convenience, the remaining figures and tables follow the report text (beginning on page 12).

prepared specifically for this bulletin.

Locations having wind speed-direction summaries are indexed in Table 1. Wind speed-direction summaries for 220 stations are presented alphabetically following Table 9. Nonsummarized records from 372 additional California stations are shown in Table 2. The period of record for the wind speed summaries is not necessarily the entire available record. Additional data may be available on stations whose records are summarized here which are not reflected in these tables.

A generalized wind-velocity distribution for California as a function of mean annual wind speed is shown in Figure 2 (see page 12).

WIND MEASUREMENTS

Wind velocities have been measured for over 300 years. An important landmark in the history of wind measurement was development of the Beaufort Scale of wind force, shown in Table 3. The scale was developed in 1806 for use on sailing ships. In the 1870s an International Meteorological Committee adopted the Beaufort Scale for use in international weather telegraphy. It has become the chief scale for specifying the force of wind throughout the world. This scale equates to the empirical relationship $V = 0.836B^{3/2}$, where V is wind speed in metres per second and B is the Beaufort Scale. Wind velocity grouping in most of the summaries of this report follow the Beaufort Scale.

The Beaufort Scale has utility in estimating wind pressure. The wind force in pounds per square foot was estimated to be 0.0105 times the cube of the Beaufort number, according to Golding.

The development of the rotating cup anemometer by T. R. Robertson in the 1850s was the start of the scientific study of wind on a routine basis. The earliest wind sensor was probably the pressure-plate type which Leonardo da Vinci described and which was first built by Robert Hooke in 1667.

Most of the more modern wind records are reported in knots, but some are in metres per second. The older records are in miles per hour. The units reflect the choice of those who originally prepared these summaries. Some conversion factors are:

1 m/sec = 3.28 ft/sec = 3.60 km/hr =
1.94 knots = 2.24 mph. Other pertinent
conversion factors are shown on page ii.

Wind Instruments

The main instrument used by the National Weather Service is the rotating cup anemometer. A four-cup type was used until December 31, 1927, when the three-cup instrument was adopted as the standard.

The photographs shown here portray modern cup-type and propeller-type anemometers. The propeller-type anemometer generally records on an analog recorder. However, reducing analog records to hourly means is a time-consuming task with a significant subjective factor. Cup-type anemometers typically have integrating type records, which record miles of wind





movement within a given time. Integrated records are easy to evaluate. The preferred anemometer recorder for wind power studies is one which records integrated measurements either of wind velocity or power output.

History of Wind Measurements

The early history of wind summaries in California is similar to the history of the National Weather Service (formerly the U. S. Weather Bureau). Until the mid-1930s almost all wind measurements in California were from Weather Service stations. In 1945, a joint Weather Service-Army-Navy tabulating unit was established in New Orleans, where large numbers of the detailed wind summaries presented here were prepared. By 1952, the National Climatic Center at Asheville, North Carolina was designated by the National Archivist to be the official custodian of federal weather records. Until the 1970s, nearly all of the hourly wind records have been kept in connection with aviation activities. Air pollution

control has been the cause for establishing large numbers of additional hourly reporting wind records since 1970. Wind power prospecting is now (1977) spawning new wind records.

Examples of the newest and best wind summaries are those prepared from measurements at Sacramento Municipal Utility District's Rancho Seco installation, where automated anemometers are integrated every few seconds or minutes by minicomputers. This equipment is finally removing subjectivity from wind observation.

In California the highest sustained wind velocities usually occur during spring and early summer. Most wind measuring stations have maximum winds in the afternoon. Exceptions to this are Fresno and Mt. Tamalpais, where the highest average wind speeds were recorded in the late evening. The lowest average wind speeds usually occur before noon during the summertime. Summaries of average wind speeds by hours and month for 13 stations are presented in Figure 3 (sheets 1 through 7). Mean monthly wind velocities for selected California stations are listed in Table 4.

Limitations of Wind Records

The 4 cup anemometer was found to overmeasure the actual wind speed by about 24 percent at 100 mph. A three-cup anemometer has been used by the National Weather Service since January 1, 1928. Some of the records of this report, which were taken with four-cup anemometers, are corrected to the equivalent of the three-cup anemometers; however, the three-cup anemometer also overregisters by about nine percent at 100 mph. The actual values of wind for the older records are in doubt because it is not always clear which corrections have been applied to individual records. The earlier wind speed records (before 1930) should be used with caution because of the possible inconsistency with which corrections for anemometer calibration have been made.

When an anemometer is installed, the pre-existing environment is modified. The physical presence of the instrument makes it impossible to measure the true wind. Therefore, wind measurement can be only indexes of the true wind speed.

The National Weather Service and the military meteorological services use the same basic techniques to observe wind velocities. (Federal Meteorological Handbook).

When a dial-type wind indicator is used, the observations represent a one minute average, which is visually observed only once each hour. Where a recording type instrument is used, the wind velocity for a five-minute time interval is used; therefore, the resulting measurements are not integrated over the hour. Where wind indicators are unavailable, the Beaufort Scale (Table 3) is used to estimate wind speeds.

Cup-type anemometers have problems in overspeeding during times of decreasing wind speed (see Busch, 1976).

Anemometers in a poor state of maintenance have an increasing value of threshold wind velocity. Some of the instruments reported here could respond to speeds as low as 0.5 mph, whereas others may need as much as 4-mph starting speed. In this report, no differentiation is made between anemometers with respect to operating condition.

Bias in the published summaries can also result if more wind observations are made in the daytime than at night. Few records are corrected for excessive daytime observations. Most of the errors of this type probably result in a few tenths of a mile per hour of over-registering.

Vertical Wind Structure

Wind speeds generally increase with height above ground. The vertical variation is commonly modeled with the following expression (Golding):

$$V_a/V_b = (z_a/z_b)^P$$

Where a and b are heights above ground of the wind turbine and anemometer,

V = wind speed

Z = height

P = varies with terrain and weather type.

$P \approx 0.143$ for flat terrain

$P \approx 0.4$ for rough terrain

For small wind turbines with propeller diameters varying up to about 10 metres (33 feet), the wind velocity at the center of the propeller may be calculated from the preceding expression (by Golding). Variations of wind velocity over the propeller height may be neglected. For large propeller diameters, the wind velocity variation over the propeller height should not be neglected; a detailed calculation using equations provided in the DWR publication "Romero Overlook Wind Energy Survey" could be used.

There are not enough data in Bulletin No. 185 to verify this vertical wind structure. Data are available from some stations equipped with towers and having wind data at several levels. These include:

Rancho Seco, SMUD's Nuclear Plant
in Sacramento County

Walnut Grove, the television tower
instrumented by the University of
California at Davis

Sutro Tower, in San Francisco, instrumented by California State University,
San Jose

Diablo Canyon, Pacific Gas and Electric Company's Nuclear Plant in
San Luis Obispo County

Wasco, Nuclear Plant site of Los Angeles Department of Water and Power

Kirkwood Meadows North, U.S. Forest Service

Kirkwood Meadows South, U.S. Forest Service

Mineral King Area, U.S. Forest Service

Additional data on over 100 meteorological towers are available at the Nevada Test Site north of Las Vegas. It appears that meteorological towers with at least two levels of wind data are a part of the Nuclear Reactor Safety Studies, and data may be located in pertinent environmental impact reports.

The wind summaries of this report were retyped onto a standard format with one exception. This is Mt. Givens, located at 9,200 feet in the Southern Sierras. The Mt. Givens record is shown here as monthly wind frequency (Figure 4) because an annual summary is unavailable in the standard format of this bulletin.

EXTREME ANNUAL WINDS

Extreme annual wind measurements are factors in determining structural strengths. Data on extreme winds are shown in Tables 5 and 7 and summarized in Tables 6 and 8. Two methods have been used to describe extreme winds: These are the fastest mile and the peak gust. Historic data on the fastest mile are available from most of the National Weather Service's (U.S. Weather Bureau) first-order stations. The data on peak gusts are available from the military weather stations. The peak gust is greater than the fastest mile because of the time over which it is measured.

The peak gust is the maximum wind speed recorded. If the wind measuring equipment is a continuous recording device, the peak gust corresponds to the maximum

value on the wind curve. Although the peak gust is usually thought of as an "instantaneous" wind, it really represents a wind averaged over the response time of the measuring equipment -- normally about one second.

The fastest mile is the one-mile passage of wind with highest speed. It is measured by a cup type anemometer, which is similar to an automobile odometer and which indicates each mile of wind movement past the anemometer.

The averaging period varies according to the wind speed; a fastest-mile wind of 60 mph will pass the anemometer in an averaging period of one-minute, while a 90-mph fastest mile corresponds to an averaging period of 40 seconds.

The fastest mile for the stations shown in Table 5 is 5.3 times the mean annual hourly wind speed, as shown in Table 6.

The peak gust averages 8.3 times the mean annual wind speed. The annual peak gust is tabulated in Table 7 and summarized in Table 8. Generalized frequency relationships of fastest mile and peak gust are shown in Figure 5. The Weibull distribution was found to be the preferred frequency distribution for wind extremes based on the relationship between skew and kurtosis (Wu 1974).

The greatest monthly wind velocity occurs with winter type storms in most of California. The exception is the desert area, where peak winds occur in the summertime. The highest monthly winds for each month at selected stations are shown in Table 9.

WIND POWER

Background

Our reliance on fossil fuels is analogous to "living" on savings instead of on income. In this sense, wind is an income -- a resource renewed with each new gust. Windmills have been used for

centuries as wind energy conversion systems in pumping water, grinding grain, moving ships, and other applications in rural areas. Six million small windmills of less than one horsepower have been used to pump water and generate electricity in the United States during the last 100 years. These windmills were typically 12 to 16 feet in diameter with multiple metal fan blades mounted on a horizontal shaft with a tail vane to keep the rotor oriented to the wind. Over 150,000 are still used by Western ranchers for watering stock in remote areas. However, during the 1930's, under the Rural Electrification Administration program, most of the windmills that had electric generators were replaced. The largest wind turbine in

the United States was built in 1941 by Smith and Putnam. It had a 175-foot-diameter rotor and generated 1.25 megawatts of electrical power.

Wind is only air in motion. Moving air has considerable kinetic energy. Kinetic energy is proportional to one-half the mass times the velocity squared.

The maximum available power in kilowatts (Kw) from a windmill or wind turbine is $P = .0003d^2v^3$, where d is the propeller diameter in metres and V is the wind speed in metres per second.

The maximum available power (in kilowatts) in wind with various wind speeds and diameters of windmills follows:

Power in Kilowatts

Wind Speed metres/sec	Diameter in Metres					Wind Speed mi/hr
	2	10	20	30	60	
5	0.15	3.8	15	34	135	11
10	1.2	30.0	120	270	1080	22
15	4.1	101.0	405	911	3640	34
20	9.6	240.0	960	2160	8640	45
	7	33	66	96	196	
	Diameter in Feet					

Modern high-speed propeller-type wind turbines can extract up to 47 percent of the total air mass kinetic energy, or about 75 percent of the maximum available power, as shown above. Conversely, the low-speed windmill (shown on the cover) can extract less than 20 percent of the total kinetic energy, or less than 35 percent of the maximum available power.

Estimates of power based on the average wind underestimate the actual power production. As an example, constant wind of 10 mph represents energy proportional to 55 watts per square meter (W/m^2), whereas if half the time the wind were 5 mph and half were 15, the mean would

still be 10 mph and the power by this cubic response would average $96 W/m^2$.

According to Golding (1976), the mass of air passing in a unit of time is DAV , and the kinetic energy passing through the area in unit of time is

$$P = 1/2 DAVV^2 = 1/2 DAV^3$$

Where D = Density, the mass per unit volume

V = Velocity

A = Area through which wind passes.

For power in units of kilowatts per square metre of area of air passage, wind velocity in metres per second, and

standard air density (where $D = 1.29 \text{ kg/m}^3$), this reduces to:

$$P/A = 0.000645V^3 / \sqrt{kW/m^2}.$$

The total energy of wind (Golding) is unavailable because energy-depleted wind must be transported from the site. The maximum energy that can be extracted is only 16/27 of the total available energy. This reduces (1) above to:

$$P/A = 0.000382V^3 / \sqrt{kW/m^2}.$$

This is an upper limit of available energy. The air density of 1.29 kg/m^3 is actually a function of pressure, temperature, and moisture (water vapor) content of air. The moisture effects are usually considered negligibly small in wind power applications. The density of dry air is equal to the pressure in millibars (mb) divided by the product of the absolute temperature (K) and the gas constant for air (2870).

California's Wind Power Potential

The areas of fastest mean annual wind speeds from these data are in the San Francisco Bay area. There could be places in the mountains where wind blows strongly enough for effective use of wind energy conversion, but data on mountain winds are scarce. Figure 6 shows, in a highly generalized manner, regions where mean annual winds of 10 to 15 miles per hour (4.5-6.7 metres per second) have been observed in California.

Vegetation in many coastal areas has been sculptured by strong prevailing-westerly winds. Trees deformed by wind could be a guide to places to prospect for wind power.

Biological Wind Prospecting is the title of a research project under way by E. Wendell Hewson of Oregon State University, Corvallis Oregon. This work is funded by the Federal Energy Research and Development Administration. Indexes of deformation of trees as a function of wind speed have been developed.

The dominant spring and summer west wind of the Bay-Delta area was appreciated by the Indians who inhabited the region (Archibald 1973). Their word "Suisun" means west wind. This seems to be the principal wind of interest for power generation. It extends from Mt. Vaca in the north to Pacheco Pass on the ridge of the Coastal Range near Los Banos in the south.

The oak trees of the Santa Ynez Valley illustrate another area of apparently strong wind. These trees are flagged over to the southeast, indicating a strong prevailing northwest wind.

Current Activities

The Energy Research and Development Administration (ERDA) has been developing large-scale wind systems for electric utility applications since the 1970s. One prototype unit was built for ERDA in 1975 by the National Aeronautics and Space Administration (NASA). The unit, which has a propeller 125 feet in diameter, is mounted on a 100-foot tower. The wind turbine develops 100 kilowatts, which is enough power for 30 average-size homes.

In 1978, ERDA is planning to install four large propeller-type wind turbines. Two units will be 100-kilowatt machines with 125-foot rotors and the other two will be 1,200-kilowatt machines with 200-foot rotors. ERDA will locate one of the 1,500-kilowatt machines in the Blue Ridge Mountains of North Carolina. Two other sites under consideration are in California at Point Arena and San Geronio Pass.

The California Energy Commission's goal for developing wind power in California is 1 percent of the State's electrical needs, or 500 megawatts, by 1987.

The Department of Water Resources has a long-range energy program which includes the development of wind power as an alternative energy source to meet the energy requirements of the State Water Project.

Currently, the Department is conducting wind surveys in the most promising areas along the aqueduct system to determine the amount of wind power available.

Wind Energy Associations

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American Wind Energy Association
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Northern California Solar Energy Association
PO Box 1056
Mountain View, CA 94042

Solar Energy Section
Energy Resources Conservation and
Development Commission
111 Howe Avenue
Sacramento, CA 95825

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FIGURES 2 THROUGH 6
TABLES 1 THROUGH 9
WIND SPEED-DIRECTION SUMMARIES

FIGURE 2
GENERALIZED WIND SPEED FREQUENCY
RELATIONSHIP FOR CALIFORNIA

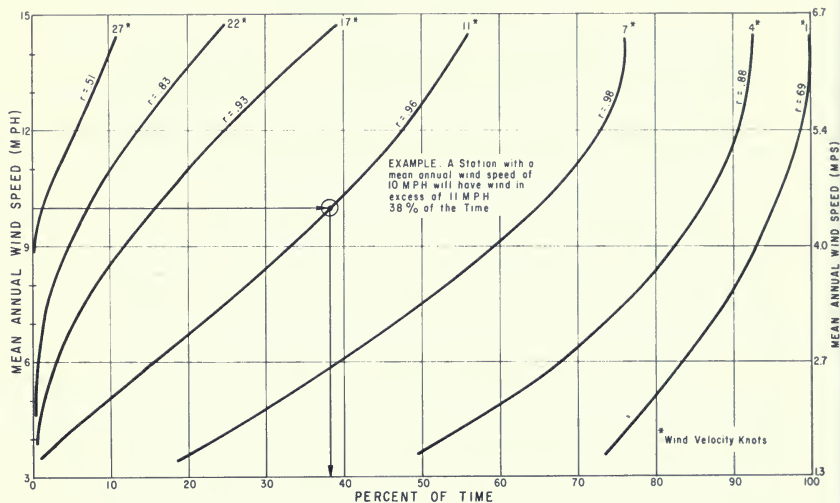


FIGURE 3. AVERAGE WIND SPEED BY HOUR AND MONTH FOR 13 CALIFORNIA STATIONS
(Sheet 1 of 7)

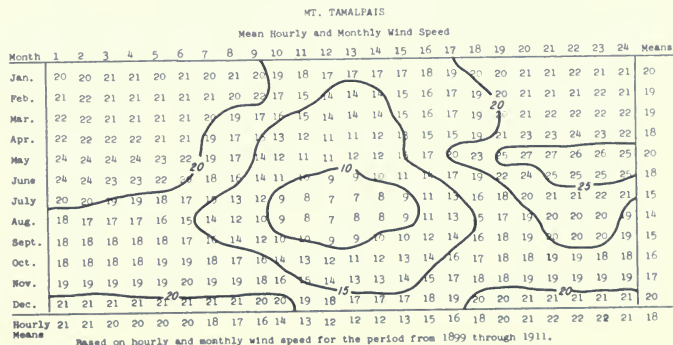
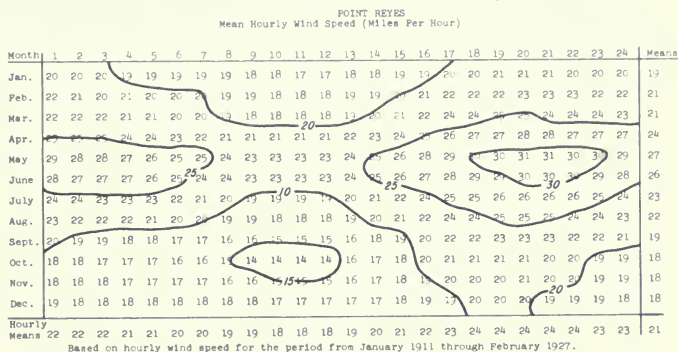
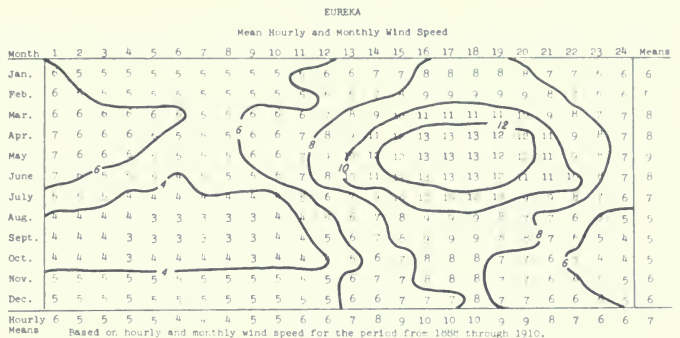


FIGURE 3 (Sheet 2 of 7)

SAN FRANCISCO

Mean Hourly and Monthly Wind Speed

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Means
Jan.	7	7	7	7	7	7	7	8	8	8	8	9	9	9	9	9	8	8	8	8	8	7	7	7	8
Feb.	7	7	7	7	7	7	7	7	8	8	8	8	9	9	10	10	10	9	9	8	8	7	7	7	8
Mar.	7	7	7	7	7	7	7	7	8	8	9	9	10	11	12	12	12	12	11	10	9	8	8	8	9
Apr.	8	8	7	7	7	7	7	8	9	9	10	12	13	14	15	14	14	13	14	10	10	9	8	10	
May	9	8	8	8	8	7	7	8	8	9	11	12	13	14	15	16	16	15	14	13	12	11	10	9	11
June	9	9	8	8	8	8	7	8	8	9	11	12	14	16	16	17	17	17	15	14	13	11	10	9	11
July	9	9	9	8	8	8	8	8	8	9	10	12	14	16	17	17	18	20	17	16	14	13	12	11	10
Aug.	9	9	8	8	8	8	8	8	8	9	10	12	14	15	16	17	17	16	15	14	12	11	10	10	11
Sept.	8	7	7	7	7	6	5	7	7	8	10	12	13	14	15	15	15	15	13	11	10	9	9	8	10
Oct.	7	6	6	6	6	6	6	6	6	7	7	8	9	10	11	12	12	12	10	9	8	7	7	7	8
Nov.	6	6	6	6	6	6	6	7	7	7	7	7	7	8	9	9	9	9	8	8	7	7	7	7	7
Dec.	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7
Hourly Means	8	8	7	7	7	7	7	7	8	8	9	10	11	12	13	13	13	13	12	11	10	9	9	8	9

Based on hourly and monthly wind speed for the period from 1890 through 1930.

LOS ANGELES

Mean Hourly and Monthly Wind Speed

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Means	
Jan.	5	5	5	5	5	5	5	6	5	5	5	5	5	6	6	7	6	5	4	4	4	4	4	4	5	5
Feb.	4	5	5	5	5	5	5	5	5	5	5	5	5	6	7	8	7	6	5	4	4	4	4	4	4	5
Mar.	4	4	4	4	4	4	5	5	5	5	5	5	6	8	9	9	9	8	7	5	4	4	4	4	4	5
Apr.	4	4	4	4	4	4	4	4	4	4	5	5	7	8	9	10	9	9	8	6	4	4	4	4	4	6
May	3	3	3	3	3	3	3	4	4	5	5	5	7	9	10	10	10	9	8	6	5	4	3	3	3	5
June	3	3	3	3	3	3	3	3	4	4	5	5	7	8	9	10	9	9	8	7	5	4	3	3	3	5
July	2	2	2	2	2	2	2	3	4	4	5	5	7	8	9	9	9	8	7	5	4	3	3	3	3	5
Aug.	2	2	2	2	2	2	2	3	3	4	5	5	6	8	9	10	9	9	8	6	5	4	3	3	3	5
Sept.	3	3	3	3	3	3	3	3	3	3	4	5	6	8	9	9	9	8	7	5	4	3	2	3	3	5
Oct.	3	3	3	3	4	4	4	4	4	4	4	5	7	8	9	8	7	6	4	3	3	3	3	3	3	5
Nov.	4	4	5	5	5	5	5	5	5	4	4	5	6	7	7	7	6	5	4	3	4	4	4	4	4	5
Dec.	5	5	5	5	5	6	6	6	6	5	5	5	5	5	6	6	6	6	5	4	4	4	4	4	4	5
Hourly Means	4	4	4	4	4	4	4	4	4	4	4	5	6	7	8	9	8	8	7	5	4	4	3	4	4	5

Based on hourly and monthly wind speed for the period from 1890 through 1930.

SAN DIEGO

Mean Hourly and Monthly Wind Speed

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Means
Jan.	5	6	6	6	6	6	6	6	6	6	7	8	9	9	10	9	8	7	6	6	5	5	5	5	7
Feb.	6	6	6	6	6	6	6	6	6	6	6	8	9	10	11	11	10	9	8	7	6	6	6	6	7
Mar.	6	6	6	6	6	6	6	6	6	7	9	9	11	11	11	11	11	9	7	6	6	6	6	6	7
Apr.	6	6	6	6	6	6	6	6	7	8	9	10	11	11	11	11	10	9	8	7	6	6	6	6	8
May	6	6	6	6	6	6	6	6	7	9	10	11	11	11	11	11	10	9	8	7	6	6	6	6	8
June	5	5	5	5	5	5	5	6	7	8	10	10	11	11	10	10	9	9	8	7	6	5	5	5	7
July	5	5	5	5	5	5	5	6	7	8	10	10	11	11	10	10	9	8	8	7	6	5	5	5	7
Aug.	5	5	5	5	5	5	5	5	7	8	9	10	11	11	10	10	9	8	8	7	6	5	5	5	7
Sept.	5	5	5	5	5	5	5	5	6	8	9	11	11	11	11	11	9	8	7	6	5	5	5	5	7
Oct.	5	5	5	5	5	5	5	5	6	7	8	10	11	11	10	10	9	7	6	5	5	5	5	5	7
Nov.	5	5	5	5	5	5	5	5	5	6	7	9	10	11	10	9	8	6	5	5	5	5	5	5	6
Dec.	5	5	5	5	5	5	5	5	5	6	7	8	9	9	9	9	7	6	6	5	5	5	5	5	6
Hourly Means	5	5	5	5	5	5	5	6	6	7	9	10	10	11	10	10	9	8	7	6	6	5	5	5	7

Based on hourly and monthly wind speed for the period from 1887 through 1930.

FIGURE 3 (Sheet 3 of 7)

RED BLUFF

Mean Hourly and Monthly Wind Speed

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Means
Jan.	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	6	6	6	6	6	6	6
Feb.	6	6	6	6	6	6	6	6	7	7	8	8	8	8	8	8	8	7	7	7	6	6	6	6	7
Mar.	6	6	6	6	6	6	6	6	7	7	8	8	9	9	9	9	9	8	7	7	7	6	6	6	7
Apr.	6	6	6	6	6	6	6	6	7	8	8	8	9	9	9	9	9	8	7	7	7	6	6	6	7
May	6	6	6	6	6	6	6	6	7	8	8	8	8	8	8	8	8	8	7	7	7	6	6	6	7
June	6	6	6	5	5	5	5	6	7	7	7	7	8	8	8	8	8	7	7	7	7	6	6	6	7
July	5	5	4	4	4	4	4	4	5	5	5	5	6	6	6	7	7	7	6	6	6	5	5	5	5
Aug.	4	4	4	4	3	3	3	4	4	4	4	5	5	6	6	6	7	7	6	6	5	5	5	5	5
Sept.	5	5	5	5	5	5	5	5	5	5	5	5	6	7	7	7	7	7	6	6	5	5	5	5	6
Oct.	5	5	5	5	5	5	5	5	6	7	7	7	7	7	7	7	7	6	6	5	5	5	5	5	6
Nov.	5	5	5	5	5	5	5	5	5	6	6	6	6	7	7	7	7	6	6	5	5	5	5	5	6
Dec.	5	5	5	5	5	5	5	5	5	6	6	6	7	7	7	7	7	6	6	6	5	5	5	5	6

Hourly Means
Based on hourly and monthly wind speed for the period from 1891 through 1930.

SACRAMENTO

Mean Hourly and Monthly Wind Speed

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Means
Jan.	8	8	7	7	7	7	7	7	7	8	8	8	9	9	8	8	7	7	7	7	7	8	8	8	8
Feb.	8	8	8	8	8	8	7	8	8	8	9	9	10	10	10	9	8	8	7	8	7	8	8	8	8
Mar.	8	8	8	8	8	8	7	8	9	9	10	10	10	10	10	10	9	8	8	8	8	8	8	8	9
Apr.	8	8	8	8	8	7	7	8	9	9	10	10	10	11	11	11	11	10	9	9	9	8	8	8	9
May	8	8	8	8	8	8	8	8	9	9	9	10	10	10	11	11	11	11	10	10	9	9	8	8	9
June	9	9	8	8	8	7	7	8	8	8	8	9	9	10	10	11	11	11	11	10	10	9	9	9	9
July	10	10	9	9	9	8	8	7	7	7	7	7	7	8	9	9	10	10	11	11	11	10	10	9	9
Aug.	9	9	9	9	8	8	7	7	7	7	7	7	7	8	8	9	9	10	10	10	10	9	9	9	9
Sept.	8	8	8	7	7	7	6	6	6	7	7	7	8	8	8	8	8	8	8	9	8	8	8	8	8
Oct.	7	7	7	6	6	6	6	6	6	6	6	7	8	8	8	7	7	6	6	7	7	7	7	7	7
Nov.	7	7	6	6	6	6	6	6	6	6	6	7	8	8	7	7	6	6	6	6	6	7	7	7	7
Dec.	7	7	7	6	6	6	7	6	6	7	7	8	8	8	8	7	7	7	7	7	7	7	7	7	7

Hourly Means
Based on hourly and monthly wind speed for the period from 1896 through 1930.

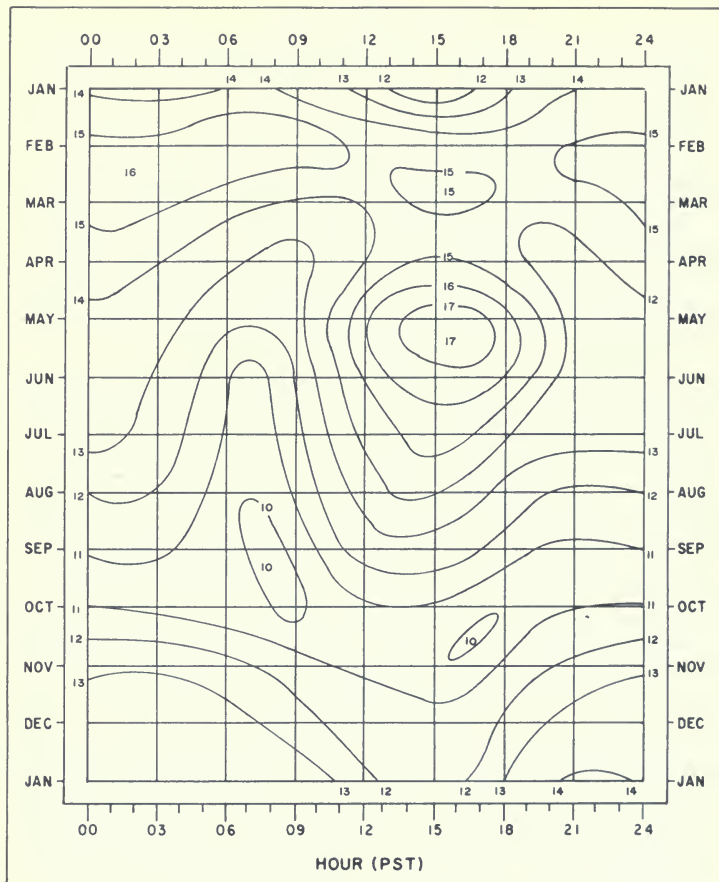
FRESNO

Mean Hourly and Monthly Wind Speed

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Means
Jan.	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
Feb.	5	5	5	5	5	5	5	5	5	5	6	6	6	6	7	7	7	6	5	5	5	5	5	5	5
Mar.	6	6	5	5	5	5	4	5	6	6	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6
Apr.	8	8	7	7	6	6	6	7	8	8	8	7	8	8	9	10	9	8	8	9	9	9	9	9	8
May	10	9	9	8	7	7	7	8	8	7	7	7	7	8	8	9	10	10	11	11	11	11	11	11	9
June	12	11	10	9	8	7	7	7	7	7	7	7	7	8	8	9	10	11	11	11	12	13	13	13	9
July	11	10	9	8	7	6	5	5	5	5	5	6	6	7	7	8	9	10	10	11	12	12	12	13	12
Aug.	10	10	8	8	6	5	5	4	5	5	5	5	5	6	7	7	8	8	9	9	10	11	11	11	8
Sept.	8	8	7	7	6	5	5	5	5	5	5	5	5	6	6	7	7	8	8	8	9	10	10	10	9
Oct.	6	6	5	5	5	5	5	4	4	5	5	5	5	6	6	6	6	5	6	6	7	7	6	6	5
Nov.	4	5	5	5	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	4	5
Dec.	4	4	4	4	4	5	5	4	5	5	5	5	5	6	6	5	5	5	5	5	5	5	5	4	5

Hourly Means
Based on hourly and monthly wind speed for the period from 1890 through 1922.

FIGURE 3 (Sheet 4 of 7)



Average wind speed in miles per hour as a function of time of day.

Station: Area 12 Mesa, Rainier Mesa, Nevada

August 1957 - December 1964

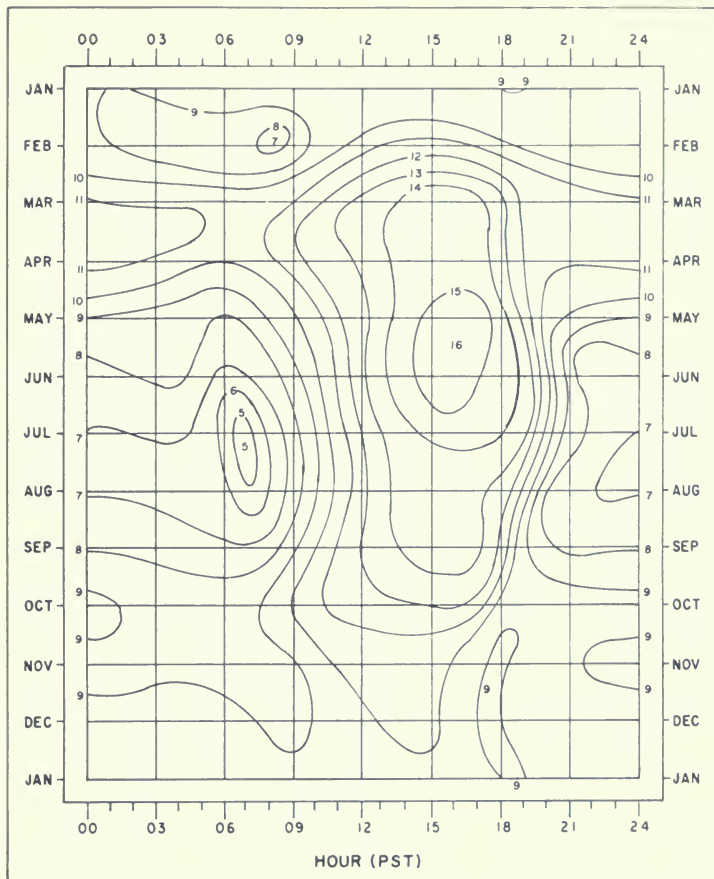
Latitude: 37° 11' 25" North

Elevation: 2 280 metres (7,480 feet)

Longitude: 116° 12' 50" West

Height: 30.5 metres (100 feet)

FIGURE 3 (Sheet 5 of 7)



Average wind speed in miles per hour as a function of time of day.

Station: Tower 4, Jackass Flats, Nevada

March 1956 - February 1962

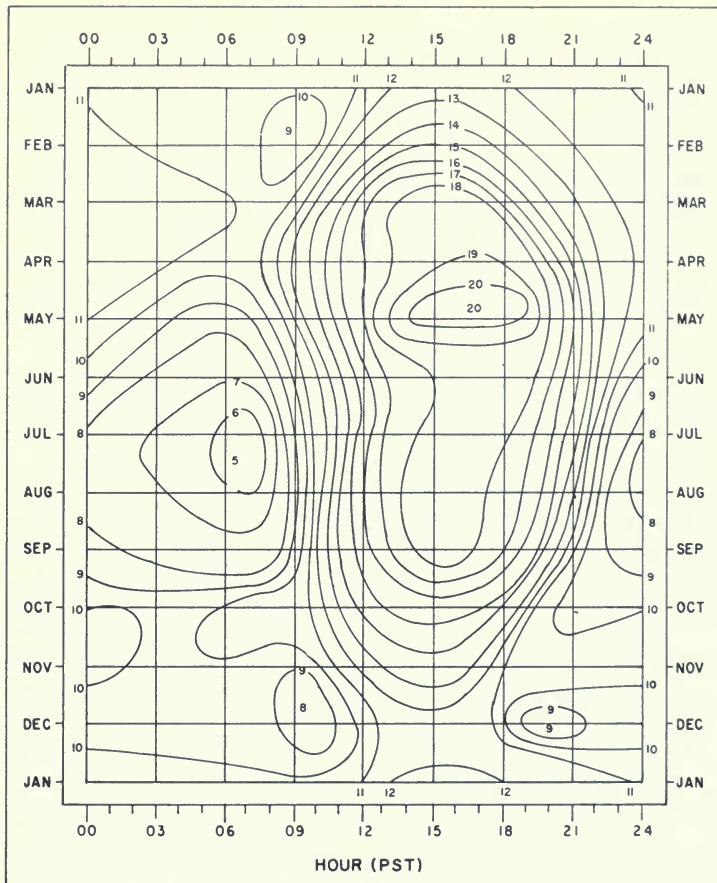
Latitude: 36° 49' 00" North

Elevation: 1138 metres (3,735 feet)

Longitude: 116° 16' 10" West

Height: 29 metres (96 feet)

FIGURE 3 (Sheet 6 of 7)



Average wind speed in miles per hour as a function of time of day.

Station: Tower 5A, Jackass Flats, Nevada

November 1958 - December 1964

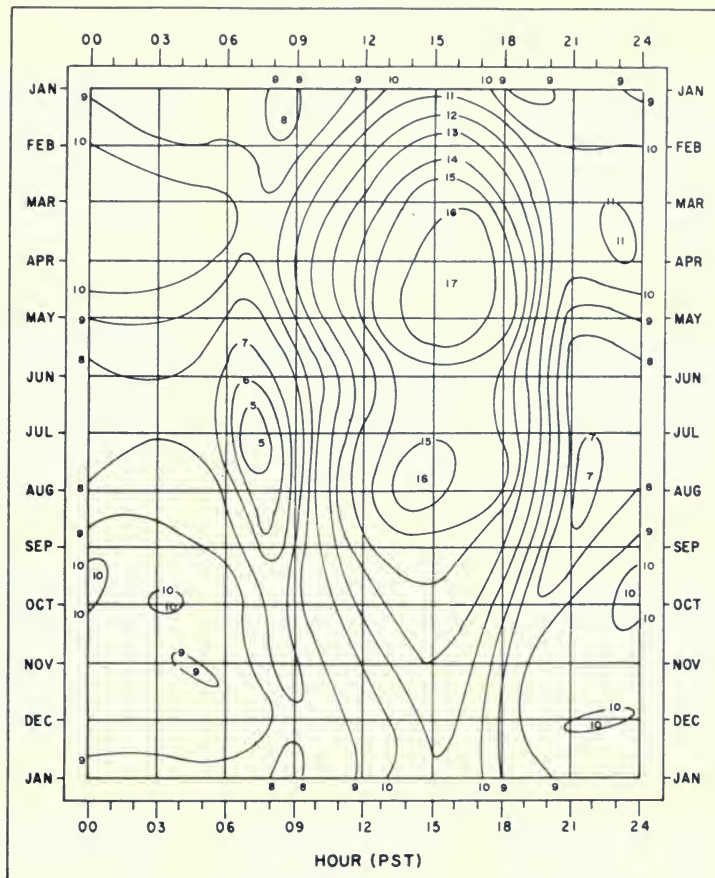
Latitude: 36° 04' 01" North

Elevation: 1 110 metres (3,644 feet)

Longitude: 116° 19' 40" West

Height: 29 metres (96 feet)

FIGURE 3 (Sheet 7 of 7)



Average wind speed in miles per hour as a function of time of day.

Station: BJY, Yucca Flat, Nevada

July 1957 - December 1964

Latitude: 37° 04' 25" North

Elevation: 1 242 metres (4,075 feet)

Longitude: 116° 03' 25 " West

Height: 29 metres (96 feet)

FIGURE 4
PERCENTAGE FREQUENCIES OF WIND SPEED CLASSES (by hours)
Mt. Givens, California--1968 through 1970; 1973 through 1975

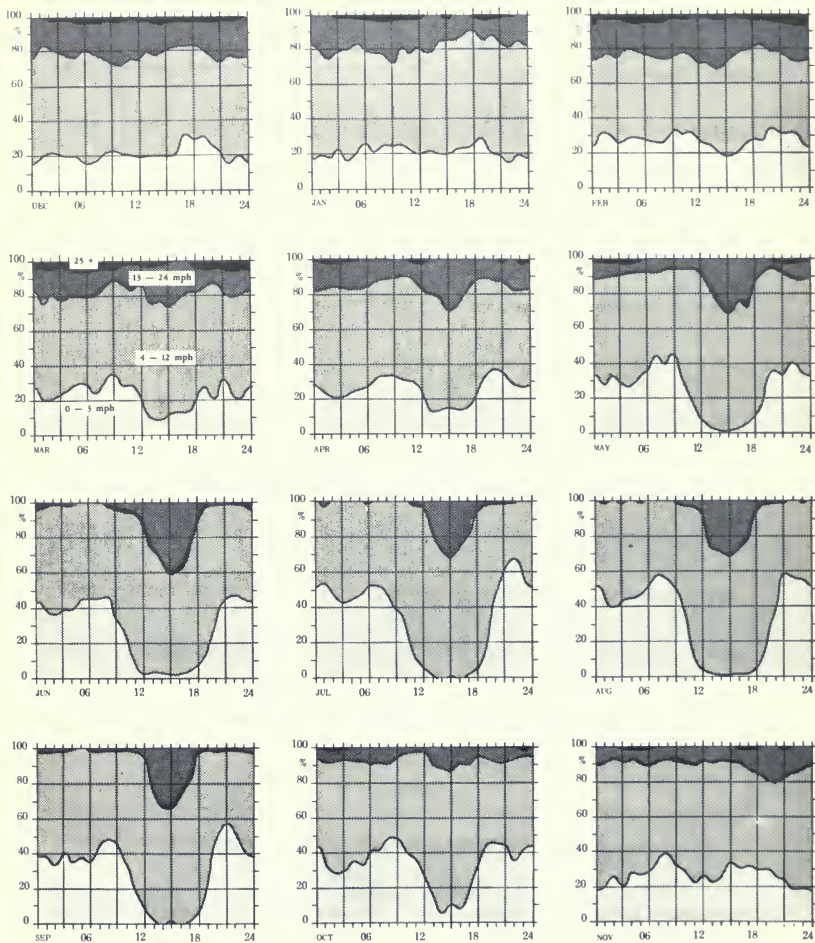


FIGURE 5
GENERALIZED WIND FREQUENCIES

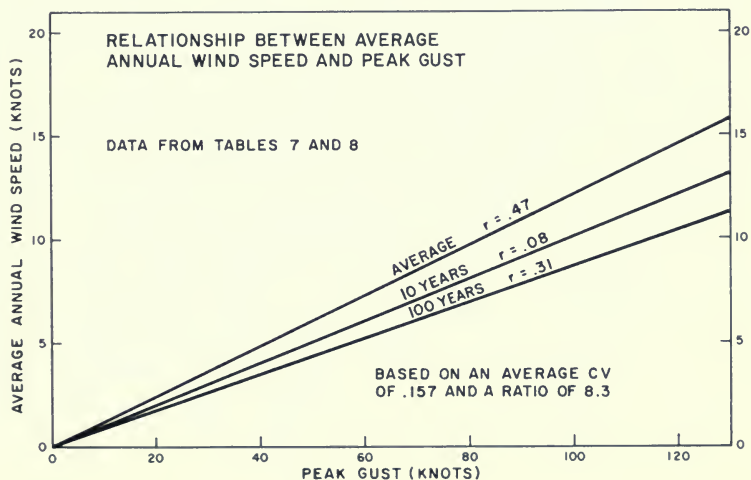
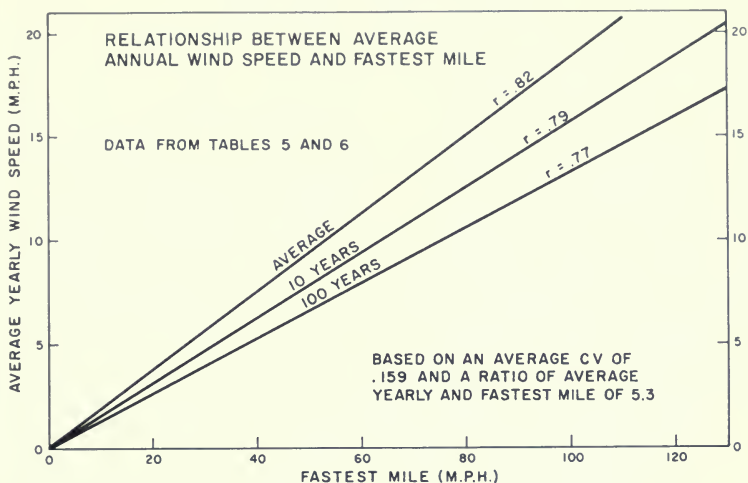
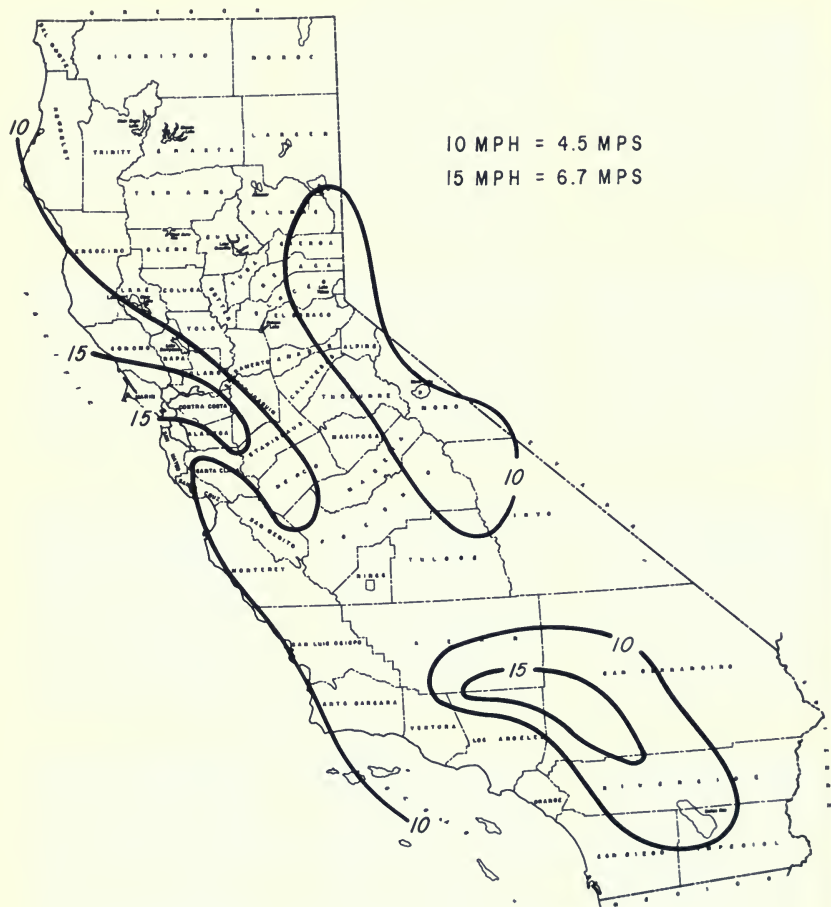


FIGURE 6
 REGIONS WHERE MEAN ANNUAL WIND SPEEDS
 IN EXCESS OF 10 AND 15 MILES PER HOUR
 HAVE BEEN OBSERVED - JUNE 1977



TABLES

TABLE 1. WIND SUMMARIES AVAILABLE FOR CALIFORNIA

STATION NAME	LAT	LONG	EL M	INST HGT	NO. OF OBS	START MO YR	END MO YR	SU 1/	TP 1/	MEAN MPS
ALAMEDA NAS	37 47	122 19	9	7	238965	01 45	12 72	2	1	3.83
ALAMITOS BEACH	19 33 45	118 08	3		37240	12 52	06 60	14	9	2.71
ALHAMBRA	37 34 05	118 09	13	9	87152	09 52	07 69	14	9	1.56
ALHAMBRA	119 34 06	118 08	8	11	36861	06 70	12 74	14	9	1.78
ALTADENA	52 34 11	118 08	9	4	53276	02 53	01 63	14	9	1.60
ANAHEIM APCO	71 33 49	118 25	224	14	128954	01 58	12 73	14	9	1.56
APPLE VALLEY SAWR	34 32	117 13	339		27986	12 60	11 65	2	1	
ARCATA CAA	40 59	124 06	69		7837	12 49	11 58	2	1	2.61
ARTESIA	82 33 52	118 05	15	8	28673	12 56	05 60	14	9	1.65
AUBURN AIRPORT	38 57	121 04	460		39625	01 34	12 38	2	1	
AZUSA	97 34 08	117 56	183	9	127521	04 60	12 74	14	9	1.78
BAKERSFIELD	35 25	119 03	151	6	23155	01 64	12 73	2	1	2.61
BAKERSFIELD MEADOW	35 25	119 03	151	18	43848	01 56	12 60	2	1	2.58
BAKERSFIELD WINTER	35 30	119 11	130		37875	10 41	01 46	2	1	2.67
BALDWIN PARK	47 34 05	117 58	115	15	57295	04 54	03 62	14	9	1.47
BEALE AFB	39 07	121 26	38		111333	08 43	12 70	2	1	2.58
BEAUMONT	33 56	116 56	790		29202	07 38	02 42	2	1	4.05
BELL	35 33 59	118 11	46	11	152439	09 52	12 56	14	9	2.63
BERKELEY LRL	84 37 52	122 15	290	12	40705	03 62	02 68	4	1	
BISHOP WRAS	37 22	118 22	1263	6	109147	01 48	12 72	2	1	3.83
BLUE CANYON WRAS	39 17	120 42	1610	9	92883	01 48	12 64	2	1	4.32
BLYTHE RCAP	33 37	114 43	119		43800	09 69	08 74	2	1	3.25
BROOKINGS ORE	42 03	124 18	46		673	01 37	03 42	8	6	
BUENA PARK	95 33 53	118 01	23	11	126272	03 59	12 74	14	9	2.00
BURBANK	34 12	118 22	221		43773	01 60	12 64	2	1	2.54
CAMBRIA	35 34	121 07	30		12159	06 43	10 44	2	1	3.29
CAMP PENDLETON MC	33 18	117 21	19	26	23684	07 66	06 72	2	1	2.63
CANOGA PARK	67 34 12	118 36	244	8	159672	12 55	12 74	14	9	1.29
CASTLE AFB	37 22	120 34	54		260322	01 42	12 72	2	1	3.03
CENTRAL STONY	35 58	121 16	402		56842	64	70	5	1	
CHICO AAF	39 48	121 51	77		31535	05 42	12 45	2	1	3.74
CHINA LAKE	35 41	117 40	682	5	207031	01 45	12 72	2	1	3.65
CHULA VISTA-BROWN	32 35	116 58	160		12852	04 45	05 55	2	1	
CLOVERDALE PEAK	38 53	123 00			12678	11 72	10 74	1	1	3.38
COALINGA	36 08	120 21	196		2532	01 32	12 32	2	1	
COMPTON	24 33 54	118 13	30	12	79341	12 54	04 66	14	9	1.87
COMPTON AP	112 34 04	118 15	30	9	74902	04 66	12 74	14	9	2.54
CONCORD	37 59	122 03	165			01 51	07 53	6	5	
CRESCENT CITY FAA	41 47	124 14	17		45662	10 49	12 54	2	1	4.14
CROWS LANDING NAS	37 25	121 06	40		1227	01 44	02 45	2	1	3.56
DAGGETT FAA	34 52	116 47	588		87556	01 55	12 64	2	1	5.03
DAVENPORT	37 00	122 11	30		7458	01 71	12 71	1	1	3.78
DESERT CENTER	33 45	115 20	165		6469	06 43	03 44	2	1	3.34
DIABLO CANYON	35 13	120 49		10	17228	05 73	04 75	1	1	4.72
DIABLO CANYON	35 13	120 49		76	17199	05 73	04 75	1	1	4.67
DOMINGUEZ WATERBO	33 50	118 14	9	9	97940	12 56	12 71	14	9	2.54
DONNER SUMMIT	39 19	120 20	2193	9	43763	01 34	12 38	2	1	

1/ See explanation at end of table.

TABLE 1. WIND SUMMARIES AVAILABLE FOR CALIFORNIA
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO. OF OBS	START MO YR	END MO YR	SU 1/	TP 1/	MEAN MPS
DOWNEY	22 33 57	118 10	37	9	160585	05 53	12 74	14	9	1.91
EDWARDS AFB	34 55	117 54	706	4	86311	01 62	12 72	2	1	3.69
EL CENTRO NAAS	32 49	115 40	-13		121517	02 45	10 60	2	1	3.92
EL MONTE	49 34 05	118 02	85	9	69678	11 53	10 65	14	9	2.09
EL TORO MCAS	33 40	117 44	117	3	236944	01 45	12 72	2	1	2.45
ENCINO	86 34 10	118 30	235	12	131556	12 57	12 72	14	9	1.91
ESTRO	35 26	120 32	9		12722	01 31	12 36	2	1	2.05
EUREKA HIJB PP	40 44	124 12	4		17351	01 66	12 67	1	1	4.27
EUREKA USWR	40 48	124 10	13	27	14510	07 30	12 36	2	1	3.16
FAIRVIEW HOSP	126 33 42	117 55	3	8	16656	02 72	12 73	14	9	1.29
FONTANA	66 34 05	117 30	332	24	139747	01 53	03 73	14	9	5.70
FORT BRAGG CASPER	39 28	123 45	230	6	17271	01 43	05 45	2	1	3.38
FORT ORD/FRITZSCHE	36 41	121 46	44	5	86943	04 60	12 70	2	1	2.89
FRESNO AIR TERM	36 46	119 43	100	6	181408	12 41	12 68	2	1	2.80
FRESNO CHANDLER	36 44	119 49	85				76	9	7	
GEORGE AFB	34 35	117 23	868	4	232810	01 42	12 72	2	1	3.78
GLENDAL AAF	34 09	118 18	141		22379	06 43	12 45	2	1	2.23
HAMILTON AFB	38 04	122 31	4	10	278159	39	70	2	1	2.45
HAWTHORNE	120 33 54	118 06	23	9	32544	10 71	12 74	14	9	1.78
HIGH POINT	35 57	121 14	566		54461	64	70	5	1	
HOLLYWOOD	27 34 06	118 20	76	12	159529	01 55	12 72	14	9	1.82
HOLLISTER NAS	36 53	121 24	61		1828	07 42	02 45	8	6	
HOLTSVILLE NAS	32 50	115 16	18		1703	08 43	02 45	2	1	1.87
HYPERION	84 33 53	118 27	3	12	29749	01 57	06 60	14	9	3.43
IMPERIAL BEACH NAS	32 34	117 07	7	5	167334	01 45	12 70	2	1	2.98
INDIO-COACHELLA	33 41	116 10	-19		27948	01 37	08 40	2	1	
JENNER AAB	38 27	123 08	72		13567	06 43	05 45	2	1	4.67
JOLON	36 00	121 14	317	3	60306	07 64	70	5	1	
KLAMATH FALLS KING	42 09	121 44	1247	4	154817	01 48	05 70	2	1	2.45
LA CANADA FS	108 34 12	118 11	366	11	74990	05 65	12 73	14	9	1.47
LA HABRA	99 34 10	117 57	91	8	119089	08 60	12 74	14	9	1.51
LA VERN AP	94 34 05	117 47	305	11	137147	11 58	05 75	14	9	2.71
LAGUNA BEACH WBO	33 32	117 47	61		43741	01 34	12 38	2	1	
LAKEVIEW ORE	42 11	120 21	811		12419	01 59	05 62	2	1	
LANCASTER	90 34 35	118 08	811	27	55943	10 57	05 64	14	9	3.69
LANCASTER	129 34 44	118 13	715	11	22307	05 74	12 76	14	9	5.65
LAS VEGAS NEV	36 05	115 10	573		32928	34	38	2	1	4.01
LEMOORE NAS	36 20	119 57	73	3	95872	07 61	06 70	2	1	2.40
LIVERMORE LLL	37 41	121 46	149			04 71	03 72	3	1	4.20
LIVERMORE 10 SSE	37 38	121 30	171		7061	01 71	12 71	3	1	8.00
LIVERMORE USWR	37 42	121 48	134		43692	01 34	12 38	8	6	
LIVERMORE 300 WOP	37 40	121 33	525	9	HRLY	10 72	09 73	3	3	6.32
LONG BEACH NS	33 49	118 09	13	6	163549	01 49	12 72	2	1	2.49
LOS ALAMITOS NAS	33 48	118 03	8	4	171926	01 49	12 69	2	1	2.45
LOS ANGELES WR 39	34 03	118 14	82	58	127007	08 50	06 64	14	9	2.67
LOS ANGELES WBAS	33 56	118 23	37	6	153295	01 47	06 65	2	1	2.98
LOS ANGELES CAP75	34 03	118 14		26	174169	08 56	12 76	14	9	5.3

1/ See explanation at end of table.

TABLE 1. WIND SUMMARIES AVAILABLE FOR CALIFORNIA
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO. OF OBS	START MO YR	END MO YR	SU 1/	TP 1/	MEAN MPS
LOS ANGELES CC 10334	05	118 18	152	14	96105	04 63	12 74	14	9	2.36
LOS ANGELES 118 33	55	118 18	15	9	30240	04 71	12 74	14	9	1.91
LOS ANGELES NORM2634	03	118 18	30	12	95824	01 55	03 67	14	9	2.58
LOS ANGELES PICO2534	03	118 22	30	12	142099	01 55	12 71	14	9	2.05
LOS ANGELES SP 68 34	06	118 14	60	8	16884	03 56	08 61	14	9	1.91
LOS ANGELES UCLA2834	04	118 27	131	15	26387	04 54	05 59	14	9	1.56
LOS BANOS	37 04	120 53		11	8496	04 74	03 75	1	1	4.90
LYNWOOD 130	33 55	118 12	35	11	9240	12 74	12 74	14	9	2.00
MALIBU FS 104	34 02	118 42	3	9	93360	12 63	12 74	14	9	2.23
MCCLELLFN AFB	38 40	121 24	26	4	283884	39	12 72	2	1	3.25
MEDFORD ORE	42 22	122 52	404		2920		74	2	1	2.09
MILPITAS	36 04	121 19	366	3		65	70	5	1	
MIRAMAR NAS	32 52	117 08	144	7	212054	07 47	06 72	2	1	2.27
MISSION HILLS 113				9	70114	12 66	12 74	14	9	2.23
MODESTO CAA	37 38	120 58	29		15321	01 40	09 41	2	1	
MOJAVE NAS	35 07	118 09	842		32291	04 45	09 58	2	1	
MONTAGUE FAA	41 46	122 28	803	6	152521	10 53	12 65	2	1	2.71
MONTEREY NAF	36 36	121 52	51	2	154998	01 45	12 69	2	1	2.49
MONTEZUMA	38 05	121 49	3	10	7417	05 70	04 71	1	1	5.12
MONTEZUMA	56 34	121 14	366	9	44823	03 53	03 62	14	9	2.27
MOSS LANDING	36 48	121 46			33589	03 69	02 72	1	1	4.01
MT SHASTA CAA	41 17	122 18	988		37577	01 34	12 38	2	1	
MT VACA	38 24	122 06			15103	11 72	10 74	1	1	6.54
NAPA	38 13	122 17	17		19547	66	68	6	5	
NEEDLES	34 46	114 37	280		43794	69	74	2	1	3.78
NELLIS AFB	36 15	115 02	573	4	230638	03 42	12 72	2	1	2.98
NEWHALL	115 34	118 33	387	9	54443	09 69	12 75	14	9	1.65
NEWPORT BEACH 63	33 36	117 54	3	6	147531	08 54	12 74	14	9	2.31
NORTON AFB	34 06	117 15	335		259005	01 43	12 72	2	1	1.78
NORTHBRIDGE CSU 83	34 14	118 32	261	8	83768	01 57	09 66	14	9	1.69
NO HOLLYWOOD 43	34 10	118 25	274	9	82539	06 55	03 65	14	9	1.74
NORWALK 32	33 55	118 04	30		23781	07 52	02 59	14	9	1.96
OAKLAND AP	37 44	122 12	5	15	87672	01 51	12 60	2	1	3.34
OCEANSIDE CAA	33 13	117 21	8		43761	01 34	12 38	2	1	
ONTARIO	34 03	117 36	280		23378	49	55	2	1	4.05
OROVILLE RS	39 32	121 34	91			07 68	07 72	2	5	
OXNARD AFB	34 13	119 04	25		143280	04 44	12 67	2	1	2.27
PALMDALE AP	34 38	118 05	768	9	109166	11 48	73	2	1	4.49
PALM SPRINGS AAF	33 54	116 33	128		24286	05 43	02 46	2	1	3.92
PALO VERDES 1	33 45	118 10	457		12941	09 54	12 57	14	9	3.07
PASADENA FDEC3110			240	12	92230	06 59	03 70	14	9	1.38
PASO ROBLES AP	35 40	120 38	246		141450	48	64	2	1	2.08
PESCADERO	37 12	122 22	141		11513	06 43	09 44	2	1	4.94
PITTSBURG DOW	38 01	121 51	3	8		67	76	8	1	3.12
PITTSBURG POWER PL 38	04	121 54	6	10	23568	12 70	11 73	1	1	4.49
POINT ARFNA CG	38 55	123 43	79		8251	01 37	02 42	2	1	6.27
POINT ARENA	38 56	123 42	73	5		08 70	07 72	1	1	6.23

1/ See explanation at end of table.

TABLE 1. WIND SUMMARIES AVAILABLE FOR CALIFORNIA
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO. OF OBS	START MO YR	END MO YR	SU 1/	TP 1/	MEAN MPS
POINT ARGUELLO	34 35	120 38	113		35036	59	63	2	1	
POINT FFRMIN	33 43	118 17	11		9392	09 38	09 42	2	1	2.94
POINT HUENEME	34 09	119 12	5		7120	08 38	12 41	2	1	3.29
POINT MONTARA	37 32	122 31	20		10829	02 38	11 41	2	1	3.56
POINT MUGU	34 07	119 07	4	4	109069	64	72	2	1	2.89
POINT PIEDRAS BLAN	35 40	121 17	21	5	6525	06 38	02 42	2	1	4.76
POINT REYES	38 00	123 00	79		12466	02 38	02 42	2	1	3.52
PAMONA APCO	109 34 04	117 45	259	11	83455	06 65	12 74	14	9	1.42
POTERRO HILL	38 12	121 58	126		34938	01 35	12 38	2	1	
PUEENTE	48 34 01	117 59	96	11	38763	02 55	03 60	14	9	1.38
RANCHO SECO	38 34	121 07	52	10	25893	01 74	12 76	15	1	3.23
REDDING WBAS	40 34	122 24	220		79033	07 29	12 38	2	1	
REDONDO KING	12 33 50	118 24	3	11	74436	04 66	12 74	14	9	2.80
RENO AP	39 30	119 47	1342		43848	01 56	10 59	2	1	2.63
RENO STAD AFR	39 40	119 52	1541	4	140000	12 57	03 66	2	1	3.03
RESEDA	107 34 12	118 32	226	11	84084	05 65	12 74	14	9	1.34
RICE AFB	34 04	114 50	269		3477	06 43	03 44	2	1	3.69
RIVERA	81 33 58	118 06	46	9	154626	01 57	12 74	14	9	1.91
RIVERSIDE/MARCH	33 54	117 15	466		286219	01 33	12 67	2	1	2.31
SACRAMENTO EX AP	38 21	121 30	5	6	87672	01 56	12 60	2	1	4.14
SACRAMENTO/MATHER	38 34	121 18	29	4	227840	04 56	12 67	2	1	3.07
SALINAS AAB	36 40	121 72	22		28775	08 41	12 44	2	1	3.60
SAM JONES	35 53	121 08	445	3	52755	65	70	5	1	
SAN CLEMENTE IS	32 57	118 32	276	5	78600	63	72	2	1	3.25
SANDBERG	34 45	118 44	1377	9	59682	01 32	12 38	2	1	6.81
SAN DIEGO NAS	32 42	117 12	7	9	238011	01 45	12 72	2	1	2.71
SAN DIEGO LINDBERG	32 44	117 10	6	6	87672	01 51	12 60	2	1	2.80
SAN DIMAS	59 34 12	117 48	290	9	18651	03 53	03 59	14	9	.98
SAN FERNANDO	45 34 17	118 27	359	8	34777	09 55	02 60	14	9	2.09
SAN FRANCISCO AP	37 37	122 23	27	6	150260	48	12 65	2	1	4.85
SAN JOSE	37 22	121 55	17		87648	01 37	12 47	2	1	
SAN LUIS ORISPO	35 15	120 40	61		17786	05 51	04 56	2	1	
SAN MIGUEL ISLAND	34 03	120 21	168		3440	02 40	06 42	2	1	7.21
SAN NICOLAS ISLAND	33 15	119 28	153	4	112227	01 45	12 72	2	1	5.07
SAN PABLO	37 59	122 21	79		18487	07 29	02 39	8	6	3.25
SANTA ANA OCAP	65 33 40	117 53	47	9	68841	02 55	01 72	14	9	2.00
SANTA ANA MCAF	33 42	117 50	19	3	130408	60	12 72	2	1	2.36
SANTA BARRARA CAA	34 26	119 50	4		43795	60	64	2	1	3.92
SANTA CATALINA AV	33 22	118 29	135		6308	06 43	02 44	2	1	2.89
SANTA CATALINA BS	33 24	119 21	498		7522	07 39	02 42	2	1	
SANTA MARIA	34 57	120 25	70	12	17544	01 48	12 58	2	1	3.12
SANTA ROSA AAS	38 25	122 45	32		23718	04 43	12 45	2	1	2.58
SANTA ROSA ISLAND	33 55	120 07	455		6261	06 43	02 44	2	1	7.48
SAUGUS CAA	34 24	118 33	368		43747	01 34	12 38	2	1	
SAUGUS SCE	91 34 24	118 32	355	14	112820	03 58	08 71	14	9	2.31
SILVER LAKE	35 20	116 06	276		8732	08 40	07 41	2	1	

1/ See explanation at end of table.

TABLE 1. WIND SUMMARIES AVAILABLE FOR CALIFORNIA
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO. OF OBS	START MO YR	END MO YR	SU 1/	TP 1/	MEAN MPS
SISKIYOU SUMMIT	OR 42 05	122 34	1371		43774	34	38	8	6	
SLIDE MTN. NEVADA	38 18	119 53	2941	2	12137	01 68	12 70	16	1	8.38
SOUTHEAST FARALLON	37 42	123 00	12		16646	06 35	06 42	8	6	4.54
STOCKTON	37 54	121 15	8		47320	01 41	12 45	2	1	3.52
SUN VALLEY	44 34 13	118 22	305		34400	08 52	06 60	14	9	2.49
SUNNYVALE MOFFETT	37 25	122 03	6	4	238814	01 45	12 72	2	1	2.71
SUSANVILLE	40 23	120 33	1265	13	4134	03 37	02 40	8	6	
TAFT GARDENER FLD	35 07	119 18	133		28266	12 41	02 45	2	1	2.31
TEHACHAPI	35 08	116 26	1210		18706	11 42	12 44	2	1	3.74
TEMPLE CITY	50 34 07	118 03	122	12	26780	06 56	06 60	14	9	2.40
TERMINAL ISLAND	5 33 46	118 13	3	15	164901	08 52	12 74	14	9	3.07
THE GEYESERS	38 50	122 37	509		13844	11 72	10 74	1	1	5.07
THERMAL FAA	33 38	116 10	-35		43823	01 57	12 61	2	1	
TORRANCE	9 33 53	118 18	3		117569	08 52	09 70	14	9	1.96
TRAVIS AFR	38 16	121 56	18	4	254948	43 57	12 72	2	1	5.30
TWENTY NINE PALMS	34 08	116 02	542		6567	07 42	03 43	2	1	2.85
UKIAH	39 07	123 17	427		87495	01 55	12 64	2	1	3.38
VALENCIA	121			8	25176	10 71	12 74	14	9	2.31
VANDENBERG AFR	34 43	120 34	116	4	115324	51	12 70	2	1	3.12
VANDENBERG BOAT ST	34 43	120 37	24	16	9313	66	67	2	1	4.05
VAN NUYS ANGR	34 13	118 30	242		237378	10 61	08 62	2	1	2.00
VAN NUYS LAVC	105 34 11	118 26	216	9	28665	03 64	08 67	14	9	1.38
VENICE	14 33 59	118 29	3	14	150177	08 54	12 73	14	9	2.89
VISALIA	36 20	118 17	108		8783	01 32	12 32	2	1	
WALNUT LACRD	106 34 00	117 51	163	9	77901	01 65	12 73	14	9	2.18
WASCO	35 44	119 32	70	9		03 74	02 75	28	1	
WASCO	35 44	119 32	70	46		03 74	02 75	28	1	
W LOS ANGELES	102 34 03	118 26	27	11	95838	11 62	12 73	14	9	1.47
WILLIAMS	39 06	122 09	39	9	43777	01 34	12 38	2	1	
WILMINGTON	4 33 46	118 16	3		44392	01 53	02 61	14	9	2.45
WILMINGTON REF	6		3		28003	11 51	02 59	14	9	1.60
WHITTIER	114 33 56	118 02	107	9	38705	08 69	12 73	14	9	1.74
YUMA AP ARIZONA	32 40	114 36	63	6	160705	49	71	2	1	3.43

FOOTNOTES ARE LOCATED AT THE END OF TABLE 2

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
AIRLINE	36 35	121 42			10	08 72	08 73	21	08
ANACAPA ISLAND	34 01	119 22	52			01 46	01 76	9	7
ANAHEIM	31 33 48	117 51	229		9 1772	09 52	03 58	14	9
ARROYO DEL VALLE	37 33	121 40	195					13	
ARROYO GRANDE	35 16	120 40			10	05 74	10 76	21	08
ARVIN-EDISON WSD	35 19	118 56			10	08 75	08 77	22	08
ATWATER	37 21	120 36	48			08 30	09 33	9	7
AVALON	33 20	118 20	3			01 61	12 68	9	7
AVON POWER PLANT	37 24	121 56	3					13	
AZUSA	60 34 08	117 56	190		9 5366	09 55	03 62	14	9
BAKERSFIELD CC	35 24	118 56			10	08 75	08 77	22	08
BAKERSFIELD CHESTE	35 21	119 01			10	08 75	08 77	22	08
BAKERSFIELD ST COL	35 21	119 06			10	08 75	08 77	22	08
BALDY MESA	34 20	117 20	1113			02 30	01 34	9	7
BARCROFT LAB	37 35	118 14	3801					27	7
BEAR VALLEY	34 31	117 13	893		2798	60	65	2	1
BEAUMOUNT	33 56	116 57	792			05 29	76	9	7
BENECIA ACPD	38 03	122 09	12	4		02 70	07 76	10	7
BERKELEY CT	37 52	122 19	2	9		06 74	07 76	11	8
BERKELEY ST HFA D	37 53	122 18	10					13	
BLAIRSDEN CT	39 46	120 36	1341	10		09 73	03 74	18	8
BLUNTS REEF CG	40 26	124 30	8			49	76	9	7
BODEGA BAY	33 19	123 03	3				76	9	7
BONITA	32 39	117 11		10		03 73	05 74	26	08
BROWN FIELD	32 34	116 59	155	10		12 72	11 73	26	08
BUELLTON	34 36	120 12		10		01 75	10 76	21	08
BURRANK ACPD	100 34 11	118 29	189	9	11029	04 62	12 74	14	9
BURLINGAME ACPD	37 35	122 21	12	13		03 73	07 76	10	7
BURNEY	40 53	121 40	953			06 42	76	9	7
CAMARILLO	34 17	119 03	128	10		02 72	03 73	32	8
CABRILLO BEACH	33 43	118 17	8				76	9	7
CAMARILLO CT 36	34 13	119 01	37	10		05 74	09 77	32	8
CAJON	34 18	117 28	933			07 43	06 46	9	7
CAJON HMS	34 19	117 29	951	11		09 73	08 77	23	8
CAMP KEARNEY	32 52	117 07	146			08 42	04 45	9	7
CAMPBELL CT	37 15	121 57	82	9		02 72	04 73	11	8
CAMPO	32 37	116 28	802			01 50	76	9	7
CAPELL SCH CT	38 23	122 12	250	9		06 73	11 74	11	8
CARLSBAD	33 08	117 17	100			08 59	76	9	7
CARMEL	36 36	121 54		10		07 74	11 76	21	08
CARMEL	32 56	117 14		10		06 73	09 74	26	08
CARQUINEZ BG	38 04	122 14	100			03 29	05 31	9	7
CARSON 189 HARBOR	33 51	118 16	6	10		06 73	09 77	32	8
CASITAS	34 23	119 23		10		04 75	03 76	21	08
CASPER FIELD	39 28	123 45	229			06 43	05 45	9	7
CASTROVILLE	36 46	121 45	5					2	7

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
CATALINA ISLAND	33 24	118 25	482				76 9	7	
CHATSWORTH CT	34 17	118 17	366	10		04 72	03 75 32	8	
CHECK 42	34 55	118 35	945			05 76		12	7
CHICO	39 48	121 51	83			07 48	76 9	7	
CHINA GRADE	35 26	118 59		10		08 75	08 77 22	08	
CHINO	33 58	117 38	211				76 9	7	
CHINO CT	33 59	117 39	192	10		06 75	09 77 32	8	
CHP	36 36	121 41		10		08 73	12 74 21	08	
CLAREMONT BASELINE	34 07	117 44	411	10		03 73	09 77 32	8	
COALINGA	36 08	120 22	206			05 28	06 57	9	7
COLTON	34 04	117 18	294	11		06 75	08 77 23	8	
COMPTON CT 45	33 53	118 11	18	10		04 76	10 76 32	8	
CONCORD ACPD	37 56	122 01	32	18		02 70	07 76 10	7	
CONCORD BUCHANAN	37 59	122 03	7			06 28	76 9	7	
CONCORD PSS	38 03	122 01	12				76 9	7	
CONTRA COSTA PP	38 01	121 47	3					13	
CORNING	39 56	122 10	87			33	36 9	7	
COSTA MESA CT	33 38	117 56	30	10		09 72	04 74 32	8	
CRAZY HORSE	36 48	121 38		10		12 72	10 74 21	08	
CREST VIEW HMS	37 44	118 58	2438	10		04 74	05 75 24	8	
CROCKETT ACPD	38 02	122 07	84	7		02 70	07 76 10	7	
CROOKED CREEK LAB	37 30	118 11	3094					27	7
CUDDEBACK	35 16	117 26	864			07 63	12 68 9	7	
CULVER CITY CT 21	33 59	118 22	76	10		12 72	03 75 32	8	
CULVERCITY CT 20	34 00	118 25	9	10		12 72	09 77 32	8	
CUPERTINO CT	37 20	122 03	82	9		12 71	04 74 11	8	
DAVIS POINT	38 03	122 16	18				76 9	7	
DELTA	40 57	122 26	366			02 40	09 44 9	7	
DELTA PUMP PLANT	37 57	121 41	8			74		12	7
DIDO-ESCONDIDO	33 07	117 06		10		06 73	12 74 26	08	
DONNER SUMIT	39 19	120 20	2193			12 29	01 55 9	7	
EAST SAN FRANCISCO	37 44	122 21	8	14		02 70	07 76 10	7	
DEVERS SUBSTATION	33 56	116 33	274						
EL CENTRO NAS	32 50	115 40		10		01 55	10 60 26	08	
EL SERENO CT	34 05	118 10	152	10		07 72	01 75 32	8	
EL MONTE AP	111 34 05	118 02	101	11	4898	10 65	08 71 14	9	
EL SEGUNDO SCE	85 33 55	118 26	3		2914	01 56	06 60 14	9	
ERRECA	32 42	117 01		10		06 73	03 75 26	08	
ETIWAANDA CT	34 08	117 33	104	10		06 75	09 77 32	8	
FAIR OAKS	38 39	121 18	52	10		01 76	01 77 20	08	
FAIRFIELD CT	38 13	122 08	2	10		06 73	01 75 25	8	
FELICITA	33 06	117 05		10		03 73	03 75 26	08	
FILLMORE CT 23	34 24	118 56	119	10		03 73	05 75 32	8	
FONTANA	34 06	117 25	396			05 31	11 45 9	7	
FORT BRAGG	39 27	123 48	23		7612	01 37	11 42 8	6	
FORT JONES	41 32	122 52	833			11 39	12 41 9	7	

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
FREMONT ACPD	37 32	121 58	18	8		02 70	07 76	10 7	
FREMONT CT	37 34	121 57	9	9		01 72	07 76	11 8	
FRESNO	36 46	119 43	101			88	76 9	7	
FRESNO DORABELLA/1	37 07	119 19		10		08 74	06 75	22 08	
FRESNO HAMMER F	36 47	119 42	102		35416	12 41	12 45	2 1	
FRESNO HMS	36 46	119 50		10		08 75	10 76	22 08	
FRESNO IRR DIST	36 46	119 46		10		08 75	03 77	22 08	
FRESNO SAAW AVE	36 49	119 50		10		10 75	10 76	22 08	
FRESNO ST UN	36 49	119 45		10		08 75	02 77	22 08	
FRESNO 41/99	36 43	119 47		10		08 75	02 77	22 08	
FRESNO 168/720	37 04	119 20		10		06 74	06 75	22 08	
FRESNO 168/830	37 05	119 18		10		06 74	06 75	22 08	
FRESNO 180/	36 44	119 42		10		08 75	10 76	22 08	
FULLERTON	33 52	117 58	30			06 61	76 9	7	
GILLESPIE FIELD	32 50	116 58	113	10		05 72	04 73	26 08	
GILROY ACPD	37 01	121 34	55	6		02 70	07 76	10 7	
GILROY CT	37 00	121 30	52	9		06 72	07 76	11 8	
GLENDALE CT 32	34 09	118 08	372	10		12 73	02 75	32 8	
GLENDALE CT	34 08	118 16	137	10		06 75	09 77	32 8	
GOFFS	34 50	114 43	791			03 32	05 35	9 7	
GOLDEN GATE BRIDGE	37 59	122 29						11 07	
GRANADA HILLS CT	34 17	118 32	332	10		10 72	09 77	32 8	
GROSSMONT	32 47	117 00	195	10		05 72	05 73	26 08	
GULF ATOMIC	32 54	117 13		10		11 72	03 73	26 08	
HALF MOON BAY	37 30	122 30	11			06 48	12 68	9 7	
HALF MOON BAY CT	37 28	122 26	9	9		10 71	07 76	11 8	
HALF MOON BAY	37 28	122 26	1					13	
HARBOR CITY PCH	33 46	118 18	9	10		09 72	04 74	32 8	
HAWTHORNE	33 55	118 20	19			01 63	76 9	7	
HAYWARD	37 39	122 07	15				76 9	7	
HERCULES CT	38 01	122 17	8	9		05 73	06 76	11 8	
HIGHLAND PARK CT	34 07	118 08	174	10		04 73	01 75	32 8	
HIGHLAND PARK 31	34 07	118 14	140	10		12 73	02 75	32 8	
HOLLISTER	36 53	121 24	114			08 28	08 59	9 7	
HOLLISTER	36 54	121 22		10		02 75	08 77	21 08	
HOLLYWOOD + VINE	34 06	118 19	140	10		12 73	02 75	32 8	
HOT SPRINGS CREEK	37 00	118 50	1829	10		75	76 3	8	
HUMBOLDT BAY	40 46	124 14	3				76 9	7	
HUNTERS POINT PP	37 43	122 22	3					13	
IMPERIAL FAA	32 50	115 34	15			03 59	76 9	7	
INDEPENDENCE	36 48	118 12	1202			94	12 44	9 7	
JACKASS FLAT NEV	36 49	116 16	1130	29		05 56	02 62	7 1	
JACUMBA	32 38	116 11	873			01 32	03 39	9 7	
JAMACHA	32 45	116 56		10		09 73	04 75	26 08	
KEELER	36 35	117 50	1107			91	94 9	7	
KERN CO MAINT YO	35 19	119 02		10		08 75	08 77	22 08	

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
KERNVILLE	35 43	118 27	1087			09 38	04 47	9	7
KEYES CT	37 34	120 55	30	10		04 73	09 77	25	8
KING CITY	36 13	121 08	117			06 28	04 47	9	7
KIRKWOOD NORTH	38 42	120 05	2200	5		01 74	12 74	29	9
KIRKWOOD NORTH	38 42	120 05	2200	15		01 74	12 74	29	9
KIRKWOOD SOUTH	38 42	120 05	2200	5		01 74	12 74	29	9
KIRKWOOD SOUTH	38 42	120 05	2200	15		01 74	12 74	29	9
LANCASTER	117 34 41	118 08	719	30	39223	07 70	12 74	14	9
LANCASTER	34 45	118 13	716	9		10 59	12 68	9	7
LANCASTER	34 44	118 13	715				76	9	7
LAVERNE	34 05	117 47	305			07 65	76	9	7
LEBEC	34 50	118 52	1090			07 29	03 32	9	7
LINDA VISTA	32 53	117 05	152			08 36	05 40	9	7
LINDBERGH FIELD	32 44	117 11	4	10		01 59	12 68	26	08
LITTLE ANTELOPE VA37	01	118 53	2286	10		75	76	3	8
LITTLE RIVER	39 16	123 45	174			01 51	12 56	9	7
LIVERMORE 300 ECP	37 39	121 32	366	9	HRLY	10 72	09 73	3	4
LIVERMORE APCD	37 41	121 47	146	7		02 70	07 76	10	7
LONG BEACH APCD10134	05	118 11	18	12	104217	11 62	12 74	14	9
LOS ANGELES	74 34 03	118 16		9	14469	03 61	10 62	14	9
LOS ANGELES	34 03	118 27	94			877	76	9	7
LOS ANGELES CT 43	34 02	118 19	61	10		06 75	09 77	32	8
LOS ANGELES CT 44	34 02	118 18	61	10		02 75	10 76	32	8
LOS ANGELES MLD 2334	03	118 18	30	11	29659	12 52	08 59	14	9
LOS ALAMITOS NAS2033	48	118 03	8	4	96277	08 52	02 71	14	9
LOS BANOS	37 06	120 51	31			05 28	08 36	9	7
LOS PINOS PK	33 44	116 45	1491			08 41	11 44	9	7
LOST HILLS	35 40	119 51	216			09 28	05 37	9	7
LYONS PEAK	32 45	116 44	1140			12 44	11 49	9	7
LYNWOOD CT	33 55	118 08	27	10		08 72	11 73	32	8
MAINTENANCE ST CT				9		02 73	01 75	11	8
MALIBU SHERIFF 18	34 02	118 42	4	8	21237	03 53	03 59	14	9
MAMOTH LAKES	37 38	118 51	2174	10		11 74	05 77	24	8
MARTINEZ PP	37 24	121 56	3					13	
MARTINEZ TIDEWATER38	02	122 08	9					13	
MARYSVILLE	39 06	121 34	22			03 47	76	9	7
MEDIAN	33 01	117 04		10		09 74	04 75	26	08
MENDOTA	36 40	120 17	53			05 28	08 36	9	7
MENLO PARK CT	37 30	122 08	2	9		11 75	07 76	11	8
MERCED	37 17	120 31	46			05 28	76	9	7
MINTER FIELD	35 31	119 11		10		08 75	08 77	22	08
MIRAMAMAR NAS	32 52	117 08	200	10		01 55	12 64	26	08
MISSION HILLS CT	34 16	118 28	290	10		09 72	02 74	32	8
MONTEREY	36 35	121 51	67				76	9	7
MONTGOMERY FIELD	32 49	117 08	107	10		05 72	05 73	26	08
MOORPARK DONLON	34 16	119 00	134	10		02 72	03 73	32	8

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
MOORPARK GRIMES	34 16	118 56	131	10		02 72	03 73	32	8
MOORPARK SPRING	34 18	118 51	262	10		11 72	12 74	32	8
MOSS LANDING	36 48	121 48	5				76	9	7
MORAGA CT	37 51	122 12	290	9		05 73	03 74	11	8
MORGAN HILL CT	37 08	121 40	107	9		03 72	07 76	11	8
MT GIVEN	37 17	119 06	2806						
MT HAMILTON	37 20	121 39	1285			07 29	08 65	9	7
MOUNT HOPE	32 43	117 07		10		11 72	07 74	26	08
MTGIVENS	37 13	118 06	2806			68	75	31	9
MT LAGUNA	32 53	116 25	1893			10 41	02 50	9	7
MT SHASTA	41 19	122 19	1083			01 32	07 76	9	7
MT ST HELENA	38 40	122 38	1322					13	
MT TAMALPIAS	37 56	122 35	789	9					
MT TAMALPIAS	37 54	122 35	290			06 40	09 57	9	7
MT WILSON	34 14	118 04	1741			05 28	76	9	7
MOUNTIAN PASS	35 28	115 34	1464			12 30	08 37	9	7
NAVAJO	32 48	117 00		10		09 73	02 75	26	08
NAPA ACPD	38 19	122 18	12	7		03 72	07 76	10	7
NEEDLES	34 46	114 37	280			01 17	12 68	9	7
NEWBURY PARK 34	34 11	118 53	189	10		05 74	05 75	32	8
NEWBURY PARK 35	34 11	118 56	198	10		05 74	05 75	32	8
NEWHALL	34 24	118 33	370			01 39	08 49	9	7
NEWHALL SIERRA HWY	34 25	118 28	439	10		03 72	01 74	32	8
NEWPORT BEACH CT	33 38	117 46	61	10		12 72	04 74	32	8
NORCO	33 54	117 34	195	11		12 72	08 77	23	8
NOVATO CT	38 09	121 34	12	9		11 75	07 76	11	8
OCEAN	33 13	117 21	3	10		11 73	03 75	26	08
OCEANSIDE	33 14	117 25	8			08 28	01 52	9	7
OCEANSIDE HARBOR	33 13	117 24	9				76	9	7
OILDALE HMS	35 25	119 03		10		08 75	08 77	22	08
OLEUM POWER PLANT	38 02	122 13	10					13	
ORANGE	32 45	117 06		10		06 72	05 73	26	08
ORINDA CT	37 51	122 08	305	9		01 72	05 73	11	8
OWENS LAKE	37 08	118 17	1215	10		06 73	07 74	24	8
PACIFICA CT	37 36	122 30	15	9		03 73	07 76	11	8
PACOIMA CT	34 17	118 24	354	10		10 72	04 74	32	8
PALMDALE AP	89 34 37	118 05	768	12	141738	08 52	04 74	14	9
PALO ALTO	37 27	122 09	17			05 28	03 32	9	7
PALO ALTO METRONIC	37 27	122 08	28					13	
PALOMAR AIRPORT	33 07	117 16		10		11 72	10 73	26	08
PASADENA	122 34 09	118 08	26	9	21912	06 72	12 74	14	9
PASADENA	116 34 08	118 07	29	11	16097	06 70	05 72	14	9
PASADENA CC	55 34 09	118 08	26	14	29624	09 55	06 59	14	9
PASADENA PALMETTO	34 09	118 09	250	10		07 72	10 77	32	8
PATROL	32 34	117 03		10		06 73	09 74	26	08
PEBBLY BEACH	33 20	118 19	6				76	9	7

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
PETALUMA CT	38 14	122 37	3	9		03 73	07 76	11	8
PIGEON POINT LS	37 11	122 24	7				76 9	7	
PILLAR POINT	37 30	122 30	40				76 9	7	
PIRU TELEGRAPH CT	34 24	118 48	198	10		03 73	05 75	32	8
PITTSBURG ACPD	38 02	121 54	2	4		07 70	07 76	10	7
PITTSBURG	38 01	121 51	8	8		56	65 8	6	
PITTSBURG CT	38 01	121 52	15	9		05 73	06 76	11	8
PITTSBURG CT	38 01	121 56	9	9		01 73	10 75	11	8
PLEASANTON CT	37 42	121 54	99	9		04 74	07 76	11	8
POINT BLUNT LS	37 51	122 25	73				76 9	7	
POINT BONITA LS	37 49	122 32	1				76 9	7	
POINT LOMA	32 40	117 27	111				76 9	7	
POINT PINOS	36 38	121 36	9				76 9	7	
POINT SAN LUIS	35 10	120 46	27			03 43	10 51	9	7
POINT SUR LS	36 18	121 54	111			03 43	01 46	9	7
POINT VINCENT	33 44	118 25	38					2	7
POTRERO PP	37 44	122 22	3					13	
RAINBOW	33 26	117 09	335	10		05 73	11 74	26	08
RAINER MESA	37 11	116 13	31	30				7	1
REAM FIELD NAS	32 34	117 07		10		01 62	12 70	26	08
RED BLUFF	40 09	122 15	105	18	131496	891	07 76	9	7
RED BLUFF	40 09	122 15	108	18	131496	31	48 8	6	
REDDING	40 30	122 18	153				76 9	7	
REDONDO BEACH 79	33 51	118 23	19	24	33121	07 56	06 60	14	9
REDWOOD CITY ACPD	37 29	122 12	5	5		02 70	07 76	10	7
REFUGIO	34 28	120 05		10		09 72	11 73	21	08
RICHMOND ACPD	37 57	122 21	16	7		03 72	07 76	10	7
RICHMOND CT	37 58	122 25	3	9		04 74	07 76	11	8
RICHMOND STD OIL	37 57	122 25	4					13	
RIO LINDA	38 41	121 31	15	10		01 76	01 77	20	08
RIO VISTA CG	38 09	121 42	12					2	7
RIVERSIDE	33 57	117 27	233			10 56	76 9	7	
RIVERSIDE AP	33 57	117 26	256	11		06 75	08 77	23	8
ROMERO OVER LOOK	37 05	121 06	12			01 73		12	4
ROSEVILLE	38 46	121 17	58	10		01 76	01 77	20	08
SACRAMENTO	38 35	121 30	8			893	06 64	9	7
SAC JEFFERSON BLVD	38 29	121 35	18	10		02 76	01 77	20	08
SAC MEADOWVIEW	38 30	121 27	15	10		01 76	01 77	20	08
SACRAMENTO CT	38 34	121 39	12	10		01 76	01 77	20	08
SACRAMENTO EX AP	38 31	121 30	7			07 28	07 76	9	7
SAC METRO AIRPORT	38 40	121 36	13	10		01 76	01 77	20	08
SACRAMENTO MET AP	38 42	121 36	7			09 67	07 76	9	7
SALTON	33 18	115 59		10		11 74	05 75	26	08
SALTON SEA	33 12	115 50	-69			01 43	09 45	9	7
SAN BERNARDINO	34 09	117 19	380	11		08 73	08 77	23	8
SAN CARLOS FAA	37 31	122 15	1				76 9	7	
<u>SAN DIEGO</u>	32 43	117 10	18			888	02 40	9	7

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
SAN DIEGO BROWN	32 34	116 59	160				76 9	7	
SAN DIEGO GILLESPIE	32 49	116 58	117				76 9	7	
SAN DIEGO LINDBER	32 44	117 10	9			07 29	76 9	7	
SAN DIEGO MONTGOM	32 49	117 09	127				76 9	7	
SAN FRANCISCO APCD	37 47	122 25		45		02 70	07 76	10	7
SAN FRANCISCO CG	37 45	122 42	8			48	12 68	9	7
SAN FRANCISCO CT	37 47	122 23	3	9		12 75	07 76	11	8
SAN FRANCISCO FOB	37 47	122 25	38			888	04 73	9	7
SAN FRANCISCO PG+E	37 46	122 27						13	
SAN JOSE ACPD	37 20	121 53	24	8		07 72	07 76	10	7
SAN JOSE RHV	37 20	121 49	41				76 9	7	
SAN JOSE ST UN	37 24	121 56	29					13	
S J CAPISTRANO CT	33 30	117 38	30	10		04 74	03 75	32	8
SAN LEANDRO CT	37 41	122 08	9	9		04 74	07 76	11	8
SAN MATEO	33 23	117 35	23				76 9	7	
SAN ONOFRE N G S	33 24	117 36	27	20		12 64		9	
SAN PEDRO	33 43	118 16	1			04 55	03 73	14	9
SAN PEDRO	33 45	118 15	13		14692	09 35	02 45	8	6
SAN RAFAEL ACPD	37 58	122 31	3	8		02 70	07 76	10	7
SAN YSIDRO REAM	32 34	117 07	7		1870	43	45 8	6	
SANTA ANA SNA	33 40	117 53	16			06 40	76 9	7	
SANTA BARBARA CT	34 25	119 41		10		12 72	11 74	21	08
SANTA BARBARA SG	34 26	119 44		10		03 74	08 77	21	08
SANTA CRUZ	36 58	122 00	1				76 9	7	
SANTA CRUZ MTS LMS	37 09	122 00	711					13	
SANTA MONICA	34 01	118 27	53			05 61	76 9	7	
SANTA ROSA	38 31	122 49	45			06 48	76 9	7	
SANTA ROSA ACPD	38 27	122 43	8	8		07 72	07 76	10	7
SANTA ROSA CT	38 27	122 41	61	9		12 72	07 76	11	8
SANTEE	32 51	116 58		10		11 72	12 73	26	08
SCOTT ROAD	33 39	117 10	460	11		08 73	08 77	23	8
SEAL BEACH CT	33 46	118 02	9	10		06 75	09 77	32	8
SEARS POINT CT	38 08	122 28	2	9		02 73	11 74	11	8
SEBASTOPOL CT	38 24	122 40	21	9		11 74	07 76	11	8
SEXTON SUMMIT ORE	42 36	123 22	1172		43394	34	38 8	6	
SHANDON	35 39	120 22		10		01 74	03 75	21	08
SHAVER LAKE DAM	37 09	119 19		10		08 74	06 75	22	08
SHELLVILLE CT	38 15	122 29	18	9		11 72	06 76	11	8
SHELTER COVE	40 02	124 04	123				76 9	7	
SKYLINE CT	37 30	122 22	265	9		04 74	06 76	11	8
SLOUGHHOUSE	38 31	121 08	98	10		01 76	01 77	20	08
SOUTH PASADINA CT	34 06	118 08	189			09 72	01 75	32	8
SPRING VALLEY	32 45	117 00		10		03 73	02 75	26	08
STADIUM	32 46	117 07		10		07 74	05 75	26	08
STOCKTON CT	37 58	121 15	8	10		04 75	09 77	25	8
STUDIO CITY CT	34 08	118 14	180	10		12 73	02 75	32	8
SUMMIT VALLEY	34 19	117 23	1050	11		08 73	06 75	23	8

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
SUNLAND FENWICK	33 15	118 18	415	10		10 72	07 73	32	8
SUNLAND TUJUNGA	34 15	118 20	354	10		04 72	04 74	32	8
SUNNYVALE	37 21	122 03	9			07 32	03 42	9	7
SUNNYVALE ACPD	37 22	122 02	31	13		10 73	07 76	10	7
TAHOE VALLEY	38 54	120 00	1930			02 50		76	9
TAFT	35 10	119 25	267			34	06 44	9	7
TAHOE CITY CG	39 11	120 07	1901					76	9
TEJON APT	35 02	118 45	435			05 28	08 34	9	7
TEMECULA	33 29	117 08	311	11		06 76	08 77	23	8
TEMECULA	33 27	117 08		10		09 74	04 75	26	08
TEMESCAL VALLEY	33 46	117 29	344	10		06 75	09 77	32	8
THERMAL AIRPORT	33 37	116 12	311	10		05 50	12 54	26	08
TIBERON CT	37 52	121 27	8	9		11 74	07 76	11	8
TOLL HOUSE/168	37 04	119 22		10		06 74	06 75	22	08
TORRANCE REF 10	33 53	118 18	5		36901	08 52	06 60	14	9
TORRANCE	33 48	118 20	29			03 59		76	9
TOWER 5A	36 47	116 20	1111	29		58		64	7
TRACY	37 46	121 32	20			05 28	03 39	9	7
TREASURE ISLAND	37 49	122 22	3						13
TRINIDAD HEAD	41 03	124 09	109					76	9
TRUCKEE	39 19	120 08	1800					76	9
TRUCKEE APT	39 22	120 09	1777			10 29	03 36	9	7
UKIAH PAA	39 08	123 12	192			03 47	12 68	9	7
VALLEJO 37 CT	38 08	122 15	2	10		06 73	01 75	25	8
VALLEJO 141 CT	38 06	122 16	2	10		04 75	10 76	25	8
VALLEJO ACPD	38 06	122 14	23	8		07 72	07 76	10	7
VALLEJO-NAPA	38 13	122 17	10			03 47	06 53	9	7
VERNALIS	37 36	121 18	59			07 43	01 46	9	7
VISALIA	36 20	119 24	88			12 46	12 68	9	7
WABASH	32 41	117 07		10		11 72	11 74	26	08
WALNUT CIT ASO 46	34 01	117 52	16	9	64286	01 57	11 64	149	
WALNUT CREEK CT	37 52	120 03	92	9		04 74	07 76	11	8
WALNUT GROVE TV	38 14	121 13	18						13
WATSONVILLE	36 56	121 47	46			03 47	08 56	9	7
WEED CT	41 26	122 21	1066	10		10 73	10 74	18	8
WEST CASITAS	34 23	119 25		10		06 76	08 77	21	08
WEST WOOD	40 18	121 00	1549			01 29	04 33	9	7
WESTMINSTER CT	33 44	117 59	8	10		03 72	04 74	32	8
WHEELER RIDGE	35 01	118 59	366			05 76			12
WILLIAMS	39 06	122 09	39			06 31	12 52	9	7
WILTON	38 24	121 17	30	10		04 76	12 76	20	08
WINTERS	38 31	121 58	40			07 28	07 31	9	7
WOOD ROAD	33 51	117 19	532	11		06 75	08 77	23	8
WOODEN VALLEY CT	38 27	122 13	229	9		06 73	11 74	11	8
WOODLAND HILLS CT	34 09	118 38	290	10		08 73	09 77	32	8
YORBA LINDA CT	33 45	117 45	104	10		03 75	09 77	32	8
YUCA FLAT	37 04	116 03	1242	29				7	1

1/ See explanation at end of table.

TABLE 2. NONSUMMARIZED WIND RECORDS FOR 372 CALIFORNIA STATIONS
(Continued)

STATION NAME	LAT	LONG	EL M	INST HGT	NO.OF OBS	START MO YR	END MO YR	SU 1/	TP 1/
YUCA NEV	36 57	116 03	1196						
YUMA TEST STA	32 50	114 21	99		69978	01 55	12 62	2	1

FOOTNOTES FOR TABLES 1 AND 2

SU=RECORD SOURCE

- 1 PACIFIC GAS + ELECTRIC CO.
- 2 NATIONAL CLIMATIC CENTER,ASHVILLE NC
- 3 LAWRENCE LIVERMORE LAB
- 4 LAWRENCE RADIATION LAB
- 5 HUNTER LIGGETT MILITARY R
- 6 BAY AREA AIR POLLUTION DST
- 8 WIND IN CALIFORNIA(1961)
- 9 ORIGINAL WEATHER RECORDS NCC ASHVILLE NC
- 10 BAY AREA AIR POLLUTION CONTROL DISTRICT
- 11 CALTRANS DIST 4 SAN FRANCISCO
- 12 DWR ENERGY DIVISION
- 13 CAL ST UN SAN JOSE,MET DEPT
- 14 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
- 15 SACRAMENTO MUNICIPAL UTILITY DISTRICT
- 16 DESERT RESEARCH INSTITUTE UN
- 17 OREGON ST UN CORVALLIS,ATMO SCI
- 7 ESSA AIR RESOURCES LAB
- 18 CALTRANS DIST 2 REDDING
- 19 CALTRANS DIST 1 EUREKA
- 20 CALTRANS DIST 3 MARYSVILLE
- 21 CALTRANS DIST 5 SAN LUIS OBISPO
- 22 CALTRANS DIST 6 FRESNO
- 23 CALTRANS DIST 8 SAN BERNARDINO
- 24 CALTRANS DIST 9 BISHOP
- 25 CALTRANS DIST 10 STOCKTON
- 26 CALTRANS DIST 11 SAN DIEGO
- 27 UNIVERSITY OF CALIF
- 28 LOS ANGELES DEPT OF WATER AND POWER
- 1 VELOCITY-DIRECTION TABLES AVAILABLE
- 29 U S FOREST SERVICE
- 30 SOUTHERN CALIE EDISON CO
- 31 CAL ST UN NORTHRIDGE GEOGRAPHY DEPT
- 32 CALTRANS DIST 7 LOS ANGELES

TP=RECORD TYPE

- 2 OBSERVATIONS ON MAGNETIC TAPE
- 3 ENERGY SPECTRA
- 4 AVERAGE DAILY WIND SPEED
- 5 WIND ROSE
- 6 WIND ROSE AND VELOCITY-DURATION DIAGRAM
- 7 UNPROCESSED HOURLY OR 3 HOURLY RECORDS
- 8 STRIP CHARTS MRI MODEL 1071
- 9 ANNUAL SUMMARY UNAVAILABLE

Table 3. WIND EQUIVALENT-BEAUFORT SCALE

Beaufort Number	Metres per Second	Miles per Hour	Knots	International Description	Specifications
0	0-.2	Less than 1	Less than 1	Calm	Calm; smoke rises vertically
1	.3-1.5	1-3	1-3	Light air	Direction of wind shown by smoke drift but not by wind vanes
2	1.6-3.3	4-7	4-6	Light breeze	Wind felt on face; leaves rustle; vanes moved by wind
3	3.4-5.4	8-12	7-10	Gentle breeze	Leaves and small twigs in constant motion; wind extends light flag
4	5.5 -7.9	13-18	11-16	Moderate	Raises dust, loose paper; small branches moved
5	8.0-10.7	19-24	17-21	Fresh	Small trees in leaf begin to sway; crested wavelets form on inland waters
6	10.8-13.8	25-31	22-27	Strong	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty
7	13.9-17.1	32-38	28-33	Near gale	Whole trees in motion; inconvenience felt walking against wind
8	17.2-20.7	39-46	34-40	Gale	Breaks twigs off trees; impedes progress
9	20.8-24.4	47-54	41-47	Strong gale	Slight structural damage occurs
10	24.5-28.4	55-63	48-55	Storm	Trees uprooted; considerable damage occurs
11	28.5-32.6	64-72	56-63	Violent storm	Widespread damage
12	32.7-36.9	73-82	64-71	Hurricane	Widespread damage

Source: Federal Meteorological Handbook #1

TABLE 4. MEAN MONTHLY WIND VELOCITIES FOR SELECTED CALIFORNIA STATIONS
(in knots)

STATION NAME	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
BAKERSFIELD AP	5	5	6	6	7	7	6	6	5	5	4	4	6
BEALE AFB	5	6	6	6	6	6	5	5	5	5	5	4	5
BLUE CANYON AP	9	9	8	7	7	7	6	6	7	7	7	7	7
BURBANK AP	4	4	5	5	5	5	5	5	4	4	4	4	4
CASTLE AFB	5	5	6	7	7	8	8	7	6	5	4	4	6
CHINA LAKE	6	7	9	9	9	9	8	8	7	6	5	5	7
EDWARDS AFB	6	7	9	10	11	11	10	9	7	6	6	5	8
EL TORO	5	5	5	5	5	5	5	5	5	5	5	5	5
EUREKA NWS	6	6	7	7	7	6	6	5	5	5	5	6	6
FARALON ISLAND	14	13	15	16	17	16	14	13	12	12	13	12	14
FORT ORD	5	5	5	6	7	7	7	7	5	5	4	4	6
FRESNO AP	5	5	6	6	7	7	6	6	5	5	4	4	6
GEORGE AFB	7	8	9	9	9	9	7	7	7	7	7	6	8
HAMILTON AFB	5	5	5	5	6	6	5	5	4	4	4	5	5
IMPERIAL BEACH	6	6	6	7	6	6	5	5	5	5	6	6	6
LAS VEGAS NEV AP	6	7	9	9	9	9	9	8	8	7	6	6	8
LEMOORE NAS	3	4	5	5	6	6	6	5	5	4	3	3	5
LONG BEACH AP	5	5	6	7	6	6	6	6	5	5	5	5	6
LOS ANGELES AP	6	6	7	7	7	7	7	7	6	6	6	6	6
LOS ANGELES CIV CEN	6	6	6	6	5	5	5	5	5	5	6	6	5
MARCH AFB	4	4	5	5	5	5	5	5	4	4	4	4	5
MATHER AFB	6	6	7	6	7	7	7	7	6	5	5	5	6
MC CLELLAN AFB	6	6	7	7	7	8	7	7	6	6	5	5	7
MEDFORD ORE AP	4	4	5	5	5	5	5	5	4	3	3	3	4
MOFFETT FIELD NAS	5	5	6	6	6	7	6	6	3	5	4	5	5
MT TAMALPAIS	17	16	16	16	17	16	13	12	13	14	16	18	16
NORTON AFB	4	4	4	4	4	4	4	4	3	3	3	3	4
OAKLAND AP	6	6	8	8	9	9	8	8	7	6	5	6	7
OXNARD AFB	5	5	5	5	5	4	4	4	4	4	5	6	5
POINT MUGU	10	9	10	10	9	8	7	8	7	7	7	5	8
POINT REYES	16	18	18	21	23	23	20	19	16	16	16	16	18
RED BLUFF AP	8	8	9	8	8	8	7	7	7	7	7	7	8
RENO NEVADA AP	5	5	7	7	7	6	6	5	5	5	5	4	6
ROMERO OVERLOOK	7	7	11	13	16	17	16	16	13	8	8	6	11
SACRAMENTO EAP	7	7	8	8	8	9	8	8	7	6	6	6	7
SANDBERG NWS	15	14	14	14	14	13	11	11	11	13	14	14	13
SAN CLEMENTE IS	6	6	8	8	8	7	7	6	6	5	6	6	7
SAN DIEGO AP	5	5	6	7	7	7	6	6	6	5	5	5	6
SAN FRANCISCO AP	6	7	9	11	11	12	12	11	10	8	6	6	9
SAN FRANCISCO FOR	6	7	7	8	9	9	10	9	8	7	5	6	8
SAN NICOLAUS ISLAND	12	14	15	15	16	14	13	13	13	12	12	12	14
SANTA MARIA AP	6	6	7	7	7	7	6	5	5	5	6	6	6
STOCKTON AP	6	6	7	7	8	8	7	7	6	5	5	5	6
TRAVIS AFB	7	8	9	11	13	15	17	15	13	9	6	6	9
YUCCA NEV TS	9	9	10	11	9	10	10	9	9	9	7	8	9
YUMA ARIZONA AP	6	6	7	7	7	7	8	8	6	6	6	6	7

TABLE 5. EXTREME ANNUAL WIND SPEED
FASTEST MILE (units in miles per hour)

Year	Bakersfield	Blue Canyon	Eureka	Fresno	Long Beach	Los Angeles AP	Oakland	Red Bluff	Sacramento	Sandberg	San Diego	San Francisco AP	San Francisco FOB	Santa Maria	Stockton	Reno	Yuma
1948			35	34			50	56			31		37	45			
1949	35		35	40			45	47			34		33	36			
1950	35		36	34			43	59			28		43	35			
1951	38	69	45	38		54	48	59	62	97	35	48	42	31	24	68	50
1952	30		51	38		62	46	60	70	86	45	50	46	42	34	61	51
1953	35		48	31		57	49	63	70	91	30	55	41	44	35	49	43
1954	30		39	35		45	38	50	60	76	36	48	35	32	32	66	54
1955	32		54	36		48	46	51	59		39	33	42	28	35	65	38
1956	27		44	29		51	32	61	52	69	32	40	34	28	29	59	43
1957	32		35	30		37	46	43	42	64	34	47	34	31	28	56	47
1958	40	64	49	29		35	43	60	42	55	37	48	40	33	25	72	38
1959	35	70	42	40	40	45	40	41	56	64	30	48	40	46	40	46	47
1960	44	61	48	28	33	36	41	47	40	77	33	52	36	37	32	54	34
1961	35	67	40	31	39	46	40	50	40	54	31	39	30	36	38	59	52
1962	37	53	56	33	32	49	35	68	42	62	31	30	38	40	38	50	36
1963	32	67	45	34	44	43	40	56	38	62	32	60	38	32	29	49	35
1964	31	38	42	41	37	55	46	56	37	54	34	59	36	37	40	51	50
1965	32	54	42	30	32	45	38	50	42	52	33	51	47		44	56	45
1966	29	40	42	30	28	43	35	45	36	58	33	48	36		39	48	42
1967	25	46	45	29	28	38	35	56	58	55	32	49	40		46	70	49
1968	25	37	42	29	35	38	35	45	38	71	32	45	35		33	80	39
1969	30	54	42	30	32	41	32	57	35	64	35	47	34		32	59	42
1970	32	55	48	29	35	45	35	56	35	46	34	41	34		39	42	41
1971	35	39	42	35	30	43	31	47	38	60	30	40	33		36	49	42
1972	41	33	40	32	31		30	42	37	54	29	32	34		31	48	40
1973	38	43	43	36	36	46	31	46	31	54	33	39			35	48	60
1974	35	76	47	31	30	46	33	50	44	55	33				32	60	36
1975	32	35	46	31	33	46	32	42	43	74	30	41			35	66	47
1976	35	30	36	35	30	53	40	37	34	60	32	41			46	66	57

TABLE 6. EXTREME ANNUAL WIND SUMMARY (a)
FASTEST MILE (units in miles per hour)

<u>Station</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>CV</u>	<u>Yrs. Rec.</u>	<u>Avg. Annual Wind</u>	<u>Ratio</u> [*]
Bakersfield AP	33.5	4.5	.134	28	6.4	5.2
Blue Canyon AP	51.6	14.3	.277	20	8.3	6.2
Eureka	43.4	5.4	.124	29	6.8	6.4
Fresno AT	33.0	3.8	.115	29	6.3	5.2
Long Beach	33.6	4.3	.128	18	6.4	5.3
Los Angeles AP	45.9	6.8	.148	25	7.4	6.2
Oakland AP	39.1	6.1	.156	29	8.2	4.8
Red Bluff AP	51.7	7.6	.147	29	8.8	5.9
Sacramento AP	45.4	11.4	.251	26	8.3	5.5
Sandberg	64.6	12.9	.200	25	15.3	4.2
San Diego	33.0	3.3	.100	29	6.7	4.9
San Francisco AP	45.2	7.7	.170	25	10.5	4.3
San Francisco FOB	37.6	4.2	.112	25	8.7	4.3
Santa Maria AP	36.1	5.7	.158	17	7.0	5.2
Stockton AP	34.9	5.7	.163	26	7.4	4.7
Reno	57.6	9.5	.165	26	6.4	Ø
Yuma	44.5	6.9	.155	26	7.8	5.7
Average			.159			5.3
Standard Deviation			.047			.70

* Ratio Mean Fastest Mile over Average Annual Wind

Ø Reno's Ratio Thought to be Unrepresentative of California

(a) Table 4 Summarizes Table 5

TABLE 7a. EXTREME ANNUAL WIND SPEED
PEAK GUST (in knots)

Year	Alameda	Barcroft	Beale	Castle	China Lake	Crooked Creek	El Centro	El Toro	Ft. Ord	George AFB	Hamilton AFB	Imperial Beach	Lemoore	Los Alamitos	Los Angeles AP
1946	44				67										
1947					67		52	55			42				
1948	47				69		52	59			49				
1949					62	42	53	59			47				
1950					67	40	51	50			60			45	40
1951	80			41	56	52	50	53		51	36			54	47
1952	50			51	70	36	57	47		54	43			54	54
1953	90	60		43	58	50	58	60		56	50			54	50
1954	51	51		47	60	53	58	59		62	56			46	39
1955	60	57		54	56	38	57	36		46	53			40	36
1956	51	60		50	57	41	57	65		45	48	43		53	44
1957	45	62		36		42	47	48		41	54	46		53	51
1958	59	78		36	55	36	48	46		41	75	51		35	48
1959	49	82		42	55	41		44		76	46	48		37	40
1960	55	70		36	52	48		50	40	50	64	38		40	31
1961	45	63		37	60	42		52	30	46	38	38		40	40
1962	46	70		43	49	44		45	44	46	44	42	34	40	43
1963	43	62		38	44	52		42	33	50	46	34	36	38	37
1964	62	68	48	51		72		50	42	45	47	35	36	42	48
1965	48	68	45	35		60		36	42	49	54	32	43	36	
1966	42	70	43	37		64		70	42	41	42	33	32	39	
1967	52	74	45	47		68		54	38	42	45	32	33	35	
1968	45	54	39	48		50		44	40	52	47	34	32	35	
1969	52	58	51	46		94		37	50	52	51	33	33		
1970	43	30	58	46		65		47	41	47	46	36	38		
1971	40		43	45				46		47		41	39		
1972	36		45	40				51		43		37	41		
1973			40	42											
1974			43	39											
1975			54	40											
1976			38	39											

TABLE 7b. EXTREME ANNUAL WIND SPEED
PEAK GUST (in knots)

Year	March AFB	Mather AFB	McClellan AFB	Miramar	Moffett Field	Monterey	Norton AFB	Oxnard	Point Mugu	San Diego	San Francisco	San Nicolas Island	Travis AFB	Vandenberg AFB
1946					40									
1947	37	45	56		39		49			34	58			
1948	43	51	55	39	38	48	57			44	58		56	
1949	46	53	56	38	46	43	69			54	62	64	58	
1950	37	63	71	41	48	53	55			34	64	51	49	
1951	36	56	55	39	51	100	56			42	78	56	49	
1952	36	64	66	50	49	67	49			51	62		62	
1953	49	55	52	32	54	49	60			47	67		65	
1954	39	61	56	33	42	40	51			52	62		49	
1955	38	55	59	35	54	51	51			46	63		51	
1956	41	59	52	31	38	48	48			35	48		46	
1957	38	60	51	38	39	69	44	50		36	60		42	
1958	40	55	50	41	46	42	36	38		63	60		44	
1959	39	58	54	36	56	48	47	47	5	52	57		48	
1960	43	59	53	38	52	42	60	39	58	40	66		47	
1961	39	45	37	33	46	35	44	41	56	36	46		44	
1962	42	51	53	33	34	45	42	44	61	41	62		58	
1963	31	43	45	29	40	47	51	54	43	40	74		41	
1964	39	48	50	35	38	52	51	44	50	36	66		50	36
1965	37	48	49	30	35		47	35	39	39	59	41	46	40
1966		48	42	33	39		49	46	47	38	61	43	43	34
1967		52	66	33	37		39		43	34	61	42	59	33
1968		37	40	28	35		36		42	37	53	45	40	36
1969		62	60	34	37		49		41	28	69	41	64	41
1970		50	53	41	38		52		49	36	60	39	57	38
1971		48	60	39	38		42		41	40	55	52	48	
1972		50	49	33	32		48		45	32	43	37	60	
1973		48	65								49			
1974		45	50								54			
1975		56	57								52			
1976		48	45								55			

TABLE 8. EXTREME ANNUAL WIND SUMMARY
PEAK GUST (in knots)

Station	Mean	Std. Dev.	CV	Yrs.	Avg Ann. Wind	Ratio
Alameda NAS	52.2	12.3	.234	24	7.5	7.0
Barcroft	63.2	11.6	.184	18		
Beale AFB	45.5	5.9	.130	13	5.3	8.6
Castle AFB	42.6	5.4	.127	26	6.0	7.2
China Lake	59.1	7.3	.124	17	7.1	8.3
Crooked Creek	51.4	14.3	.278	22		
El Centro	53.3	4.0	.074	12	7.6	7.0
El Toro	50.2	8.5	.169	26	4.8	10.5
Ft Ord	40.2	5.3	.132	11	5.6	7.2
George AFB	49.2	8.0	.162	22	7.4	6.6
Hamilton AFB	49.2	8.5	.172	24	4.8	10.3
Imperial Beach	38.4	5.9	.152	17	5.8	6.6
Lemoore	36.1	3.8	.104	11	4.7	7.7
Los Alamitos	42.9	7.2	.168	19	4.8	8.9
Los Angeles AP	43.2	6.4	.148	15	5.8	7.4
March AFB	39.5	4.0	.101	19	4.5	8.8
Mather AFB	52.5	6.4	.122	30	6.2	8.5
McClellan AFB	53.6	7.7	.144	30	6.5	8.2
Miramar	35.7	4.8	.135	25	4.4	8.1
Moffett Field	42.3	6.9	.162	27	5.3	8.0
Monterey	51.7	15.1	.293	17	4.9	10.6
Norton AFB	49.3	7.5	.152	26	3.5	14.1
Oxnard	43.8	5.8	.132	10	4.4	10.0
Point Mugu	47.3	7.1	.150	13	5.6	8.4
San Diego NWS	41.0	8.1	.197	26	5.3	7.7
San Francisco AP	59.5	7.7	.130	20	6.1	9.7
San Nicolaus Island	46.5	8.3	.178	11	9.9	4.7
Travis AFB	51.0	7.5	.147	25	10.3	5.0
Average	47.5		.157		5.93	8.3
Standard Deviation	7.00		.048		1.61	1.90

TABLE 9. PEAK MONTHLY WINDS AT SELECTED STATIONS
(in knots)

STATION	YRS	TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ALAMEDA NWS	28	PG	60	59	57	46	46	47	35	32	42	55	61	62	62
BAKERSFIELD NWS	28	FM	35	44	34	40	38	41	25	30	35	31	30	35	44
BARCROFT LAH	18	PG	94	81	74	83	65	51	53	53	51	81	67	78	94
BEALE AFB	16	PG	50	54	44	38	37	38	28	30	42	46	56	58	58
BLUE CANYON NWS	19	FM	67	76	67	50	37	49	32	30	40	70	54	51	76
CASTLE AFB	29	PG	51	54	47	48	43	40	30	29	42	40	46	47	54
CROOKED CREEK LAH	22	PG	108	78	67	60	56	65	44	75	44	67	63	74	108
EL TORO MCAS	27	PG	59	65	55	46	36	33	47	36	47	45	63	60	65
EUREKA NWS	66	FM	54	48	44	49	40	39	35	34	40	56	43	56	56
FORT ORD/FRITZSHE	11	PG	44	50	37	40	40	38	26	28	29	40	42	42	50
FRESNO NWS	26	FM	32	38	41	36	38	34	25	31	29	40	29	43	43
HAMILTON AFB	24	PG	56	75	49	49	45	41	32	46	44	64	53	53	75
IMPERIAL BEACH NWS	18	PG	48	37	44	48	26	27	28	26	30	41	51	40	51
LEMOORE NWS	12	PG	38	43	38	32	37	33	28	27	32	39	32	41	43
LONG BEACH NWS	18	FM	37	40	35	44	30	21	23	23	23	37	35	39	44
LOS ALAMITOS NWS	20	PG	54	42	54	47	38	32	25	26	26	39	53	54	54
LOS ANGELES AP NWS	26	FM	48	57	62	59	45	32	29	33	28	46	55	49	62
LOS ANGELES CC NWS	35	FM	49	40	47	40	39	32	21	24	27	48	42	44	49
MARCH AFB	19	PG	46	43	41	35	34	39	36	35	39	39	40	49	49
MATHER AFB	31	PG	61	62	62	53	43	45	33	32	50	63	56	64	64
MCCLELLAN AFB	31	PG	66	60	66	55	55	56	39	31	40	71	55	65	71
MEDFORD NWS	27	FM	50	46	55	35	38	33	44	48	32	40	38	44	55
MIRAMAR NWS	26	PG	39	39	37	41	31	25	32	28	41	33	38	41	41
MOFFETT FIELD NWS	27	PG	56	56	47	43	36	40	30	31	33	48	43	52	56
MONTEREY NWS	16	PG	54	69	100	46	39	40	33	32	31	56	49	61	100
NORTON AFB	27	PG	69	55	47	47	35	48	39	56	60	57	52	64	69
OAKLAND AP NWS	28	FM	46	49	45	35	38	42	28	29	33	43	46	48	49
OXNARD AFB	10	PG	47	44	43	36	36	23	22	21	32	44	50	45	50
POINT MUGU PMR	13	PG	61	49	47	50	44	29	33	25	40	43	56	58	61
RED BLUFF AP NWS	32	FM	59	61	63	50	46	38	38	30	50	68	56	60	68
RENO AP NWS	16	FM	80	66	80	48	48	46	44	43	42	50	52	68	80
SACRAMENTO AP NWS	28	FM	60	51	64	45	35	47	36	38	42	68	70	70	70
SANDBERG NWS	21	FM	64	77	74	64	59	64	46	40	45	53	62	53	77
SAN CLEMENTE NWS	10	PG	39	44	42	39	34	31	24	28	29	33	39	38	44
SAN DIEGO NWS	26	PG	52	46	52	63	30	28	24	26	28	54	46	40	63
SAN DIEGO NWS	33	FM	39	35	46	37	27	26	23	23	25	31	51	34	51
SAN FRANCISCO AP NWS	27	FM	58	52	40	46	41	44	38	36	38	44	47	47	58
SAN FRANCISCO FOR	36	FM	47	47	44	38	38	40	38	34	32	43	41	45	47
SAN NICOLAUS IS PMR	11	PG	52	64	54	55	56	45	45	41	47	50	52	55	64
SANTA ANA MCAF	10	PG	57	53	42	39	40	28	26	31	40	37	52	59	59
STOCKTON AP NWS	13	FM	46	39	39	35	33	31	26	28	33	36	40	44	46
TRAVIS AFB	25	PG	60	65	56	53	45	47	46	42	47	51	54	49	65
VANDENBERG AFB	8	PG	41	41	40	36	35	36	28	25	32	32	38	34	41

DESERT AREA STATIONS

BISHOP NWS	2	PG	47	52	58	54	53	60	46	75	48	48	56	66	75
CHINA LAKE NWS	20	PG	67	69	70	64	71	67	52	50	60	59	58	62	71
EDWARDS AFB	26	PG	59	67	74	58	62	59	51	60	75	75	55	58	75
EL CENTRO NAAS	13	PG	50	52	54	58	58	52	41	51	48	48	53	55	58
GEORGE AFB	23	PG	54	52	62	52	45	76	50	44	39	44	51	56	76
LAS VEGAS NWS	12	FM	52	60	52	52	52	46	64	55	54	52	46	54	64
YUMA AP NWS	26	FM	41	50	43	47	38	42	52	60	57	47	47	47	60

TYPE FM=FASTEST WIND, PG=PEAK GUST (KNOTS)

WIND SPEED-DIRECTION SUMMARIES
FOR 220 STATIONS

(See Table 1 for alphabetical
listing; Figure 1 for location)

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23239
STATION

ALAMEDA, CALIFORNIA NWSE

45-72

YEARS

ALL
MONTH

ALL WEATHER
CLASS

ALL
HOURS (L.R.T.)

37°47', 122°19', 30'

LOCATION

22 feet

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.3	1.8	1.0	.5	.1	.0	.0					4.7	6.5
NNE	.4	.4	.2	.1	.0	.0	.0					1.1	5.7
NE	.4	.4	.2	.1	.0	.0						1.1	5.2
ENE	.2	.2	.1	.0	.0							.6	5.0
E	.8	.9	.4	.1	.0	.0	.0					2.2	4.8
ESE	.7	1.3	.8	.3	.1	.0	.0	.0				3.1	6.7
SE	.9	1.5	1.1	.8	.4	.2	.1	.0				5.0	8.8
SSE	.6	.9	.6	.5	.2	.1	.0	.0				2.9	8.7
S	1.1	1.5	.9	.6	.2	.1	.0	.0				4.4	7.5
SSW	.6	1.0	.9	.5	.1	.0	.0	.0				3.2	7.6
SW	1.0	2.0	2.8	1.6	.2	.0	.0	.0		.0		7.6	8.0
WSW	.8	2.1	3.4	2.7	.3	.0	.0	.0		.0		9.3	9.1
W	1.5	3.9	7.5	7.3	1.7	.3	.0	.0	.0			22.1	10.1
WNW	.9	2.3	3.4	2.5	.4	.1	.0	.0				9.7	9.0
NW	1.4	2.8	2.5	1.0	.2	.0	.0	.0				7.9	7.0
NNW	.9	1.9	1.4	.6	.1	.0	.0					5.0	6.9
CALM												10.2	
10.2	13.5	24.8	26.9	19.1	4.1	1.0	.1	.0	.0	.0	.0	100.0	7.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

238965

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Alamitos Beach, SP

STAY WITH US

12/18/52 - 6/28/60

TEAM

ALL

CLAIMS

ALL WEATHER

CLASS

33 45', 118°08', 10' , State Park

LOCATION

HEIGHT ABOVE GROUND

WIND DIR.	WIND SPEED	%	MEAN WIND SPEED
N		6.8	3.6
NNE		8.9	3.8
N E		7.5	4.0
ENE		6.1	4.5
E "		3.7	4.4
ESE		2.9	3.9
SE		2.7	5.8
SSE		4.4	6.5
S		4.5	6.0
SSW		6.6	5.6
SW		11.0	6.9
WSW		18.1	10.2
W		4.7	7.8
WNW		3.3	7.6
NW		4.9	4.7
NNW		3.7	3.4
CALA		99.8	6.1

Data from South Coast Air Quality Management District

9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

37 210

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Alhambra

STATION NAME

1/1/55 - 12/31/69

NAME

1000

ALL WEATHER

CLASS

24° 05' 118° 09' 430' 2320 Poplar Blvd.

LOCATION

30'

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

87,152

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Alhambra, FS3

1970 - 1974

3747104

STATION NAME

ALL WEATHER

CLASS

34 06', 118° 08', 480, 2200 W. Main St.

LOCATION

35

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

36,861

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

ALT
052W
STATION

Altadena

STATION NAME

2/16/53-1/10/63

YEAR

ALL

MONTHS

ALL WEATHER

CLASS

34°11', 118°08', 1340', 780 E. Foothill Blvd.

LOCATION

30'

HEIGHT ABOVE GROUND

ALL

MOVES (L.R.T.)

WIND DIR.	PERCENTAGE	%	MEAN WIND SPEED
N	8.0	3.1	
NNE	19.8	3.2	
NE	9.0	3.0	
ENE	3.7	3.4	
E	6.0	3.4	
ESE	6.6	3.9	
SE	8.3	3.7	
SSE	4.6	3.7	
S	12.0	4.1	
SSW	6.3	4.3	
SW	5.8	3.9	
WSW	2.8	4.3	
W	3.0	4.0	
WNW	1.1	4.1	
NW	1.4	3.5	
NNW	1.5	3.2	
CALM	99.9	3.6	

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

53,276

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Anaheim APCD

SYAYUD

STATION NAME	STATION NO.	STATION TYPE	STATION CLASS	STATION CODE	STATION NAME	STATION NO.	STATION TYPE	STATION CLASS	STATION CODE
STATION NAME	STATION NO.	STATION TYPE	STATION CLASS	STATION CODE	STATION NAME	STATION NO.	STATION TYPE	STATION CLASS	STATION CODE

1/1/58-12/31/73

STYL

ALL

ALL WEATHER

CLASS

33°49', 118°25', 735', 9846 Harbor Blvd.

LOCATION

7.5:

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

128.954

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Apple Valley, California

December 1960 thru November 1965

ALL
MONTH

STATION NAME

ALL WEATHER

ALL
MONTHS (L.R.T.)

CLASS

34° 32', 117° 13', 2,930'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-27	28-40	> 40				%	MEAN WIND SPEED
N	0.0	0.7	1.1	0.4	0.1	0.0					2.3	
NNE	0.0	0.4	1.0	0.8	0.2	0.0					2.5	
NE	0.0	0.3	0.5	0.4	0.1						1.3	
ENE		0.2	0.4	0.3	0.0						1.0	
E		0.3	0.4	0.2	0.0						0.9	
ESE	0.0	0.1	0.2	0.1	0.0						0.5	
SE		0.1	0.1	0.0	0.0	0.0					0.3	
SSE	0.0	0.3	0.5	0.5	0.1						1.4	
S	0.0	0.5	3.1	6.0	2.1	0.1					11.7	
SSW	0.0	0.6	4.4	6.8	2.0	0.0					13.8	
SW	0.0	0.7	2.0	1.6	0.3	0.0					4.5	
WSW	0.0	1.4	2.3	1.6	0.6	0.0					5.9	
W	0.0	1.6	2.3	1.8	1.0	0.0					6.7	
WNW	0.0	0.5	0.9	0.6	0.3	0.0					2.4	
NW		0.3	0.4	0.1	0.0						0.9	
NNW	0.0	0.5	0.6	0.2	0.0	0.0					1.4	
CALM												
42.5	0.1	8.7	20.5	21.3	6.8	0.2					42.5	
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

27,982

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

24283

Arcata, California CAA

December 1949 thru November 1958

ALL

STATION

STATION NAME

YEAR

MOON

ALL WEATHER

CLASS

40° 54', 124° 06', 226'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-10	11-21	22-27	28-40	>40					%	MEAN WIND SPEED
N	0.7	2.0	0.7	0.1	0.0						3.4	7.8
NNE	0.3	0.8	0.1		0.0						1.1	5.8
NE	1.2	2.2	0.1	0.0							3.5	4.9
ENE	0.8	1.6	0.0	0.0							2.4	4.8
E	2.3	3.7	0.1	0.0	0.0						6.2	4.6
ESE	0.9	2.2	0.3	0.0	0.0						3.5	6.0
SE	2.3	7.8	2.2	0.1	0.0						12.4	7.5
SSE	0.8	2.6	0.7	0.0							4.1	7.1
S	1.3	2.6	0.5	0.0	0.0						4.5	6.4
SSW	0.4	1.1	0.3	0.0							1.5	7.1
SW	1.0	2.5	0.3	0.0	0.0						3.9	6.2
WSW	0.4	1.5	0.1	0.0	0.0						2.1	6.0
W	1.1	3.7	0.3	0.0	0.0						5.1	5.2
WNW	0.5	3.3	0.8	0.0	0.0						4.5	7.7
NW	1.1	6.6	5.5	0.4	0.0						13.6	10.6
NNW	0.3	2.0	1.7	0.2	0.1						4.3	11.3
CALM											23.3	5.7
23.3	15.4	46.2	13.7	1.0	0.1						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

7,837

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Arteria

STATION NAME

1956-1960

17491

ALL

Notes

ALL WEATHER

CLASS

33°52', 118°05', 50', 11931 So. St.

LOCATION

55

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

28,673

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Auburn, California YEAR 1934 through 1938 ALL MONTHS
 ALL WEATHER CLASS 38° 57', 121° 04', 1650' ALL MONTHS (L.R.P.)
 LOCATION 38° 57', 121° 04', 1650'
 HEIGHT ABOVE GROUND _____

SPEED MPH Dir.	4-15	16-31	32-47	>47						%	MEAN WIND SPEED
N	1.8	0.1								1.9	
NNE	0.7	0.1	0.0							0.8	
NE	2.9	0.1	0.0							3.0	
ENE	1.3	0.0								1.3	
E	26.6	0.5								27.0	
ESE	5.1	0.2								5.3	
SE	10.9	1.0	0.0	0.0						11.8	
SSE	3.6	1.0	0.1							4.6	
S	6.6	1.3	0.0							7.9	
SSW	3.3	0.5	0.0	0.0						3.8	
SW	10.0	0.3	0.0							10.2	
WSW	2.8	0.0								2.8	
W	4.7	0.0								4.7	
WNW	1.9	0.0								1.9	
NW	4.5	0.3								4.8	
NNW	0.8	0.1								0.9	
CALM											
7.2	87.1	5.5	0.1	0.0						7.2	
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

39,625

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

AZU
097W

Azusa

1960-1974

STATION NAME

NAME

ALL

ALL WEATHER
CLASS

ALL

34° 08' 117° 56' 600', 803 N. Loren Ave.

30:

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

127,521

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23155 Bakersfield 1964 through 1973 ALL
STATION NAME YEAR MONTH
8 obs.
MOUSE (L.A.T.)

ALL WEATHER
CLASS
35° 25', 119° 03', 495'
LOCATION
20 feet
HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-21	>21						%	MEAN WIND SPEED
N	0.5	4.7	4.1	1.1	0.1							10.6	7.1
NNE	0.2	1.7	1.6	0.4	0.0	0.0						3.9	7.1
NE	0.3	1.7	1.1	0.2	0.0	0.0						3.3	6.3
ENE	0.3	1.9	0.5	0.0	0.0							2.8	5.3
E	0.8	5.3	1.8	0.0	0.0							8.0	5.5
ESE	0.7	4.2	0.9	0.1	0.0	0.0						5.9	5.3
SE	0.8	4.0	0.8	0.1	0.1	0.0						5.2	5.6
SSE	0.6	2.7	0.6	0.2	0.1	0.0						4.2	5.0
S	0.6	1.9	0.4	0.1	0.1	0.0						3.1	5.4
SSW	0.3	0.8	0.2	0.0								1.3	4.8
SW	0.4	1.2	0.3	0.0	0.0							1.3	5.3
WSW	0.4	1.7	0.5	0.0								2.7	5.3
W	0.6	2.8	1.7	0.2	0.0							5.3	6.6
WNW	0.4	2.6	2.8	1.0	0.0	0.0						6.8	7.4
NW	0.4	3.5	4.9	2.6	0.1	0.0						11.6	8.3
NNW	0.5	3.6	4.8	2.4	0.2	0.0						11.5	8.3
Avg	3.0	5.0	8.2	12.5	18.3	24.1							
CAUA												11.3	5.3
11.3	7.8	44.4	26.9	8.7	0.8	0.1						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 23,202

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Station Name Bakersfield, Meadowsfield, CA Year 1956 - 1960

ALL MONTHS

YEAR

STATION

STATION NAME

ALL WEATHER

CLASS

35°25', 119°03', 494'

LOCATION

60', 20' after 6/20/60

HEIGHT ABOVE GROUND

ALL MONTHS

DOUB (L.R.)

SPEED MPH Dir.	0-3	4-7	8-12	13-18	19-24	25-31	32-38	> 38	%	MEAN WIND SPEED
N	0.1	2.2	2.7	1.0	0.1	0.0			6.2	9.1
NNE	0.1	1.3	1.0	0.2	0.0				2.6	7.8
NE	0.1	2.3	0.6	0.0	0.0	0.0			3.0	6.3
ENE	0.2	3.9	1.3	0.0	0.0				5.4	6.5
E	0.2	3.0	0.7	0.1	0.0				4.0	6.2
ESE	0.2	2.0	0.5	0.1	0.1	0.1			2.9	7.5
SE	0.2	1.4	0.4	0.2	0.1	0.0	0.0		2.3	7.4
SSE	0.1	0.6	0.2	0.1	0.0	0.0	0.0		1.1	8.0
S	0.1	0.8	0.2	0.0	0.0				1.1	6.2
SSW	0.1	0.6	0.1	0.0	0.0	0.0			0.8	5.9
SW	0.1	1.3	0.4	0.0	0.0				1.9	6.5
WSW	0.1	1.3	0.8	0.1	0.0	0.0			2.3	7.1
W	0.1	1.8	1.5	0.3	0.0	0.0			3.7	7.9
WNW	0.2	2.6	4.2	2.4	0.2	0.0	0.0		9.6	10.1
NW	0.2	3.0	5.6	3.3	0.3	0.0	0.0		12.3	10.4
NNW	0.1	2.1	3.7	2.1	0.3	0.1	0.0		8.3	10.4
CALM									32.6	5.8
32.6	2.1	30.0	23.7	10.1	1.1	0.3	0.0		100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43,848

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Bakersfield Winter Fld

October 1941 thru December 1945

ALL

STATION NAME

YEAR

MONTH

ALL WEATHER

CLASS

35° 30', 119° 11', 427'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	>47					%	MEAN WIND SPEED
N	2.5	12.3	0.8								15.5	6.9
NNE	0.9	5.4	0.2								6.4	6.5
NE	1.7	5.3	0.1								7.1	5.5
ENE	0.8	2.3									3.2	5.2
E	1.7	3.1									4.8	4.5
ESE	1.0	3.2	0.1								4.3	5.3
SE	2.1	6.1	0.2	0.1							8.6	5.8
SSE	1.1	2.5	0.2								3.7	5.5
S	1.2	1.6									2.9	4.2
SSW	0.4	0.7									1.2	4.5
SW	0.8	0.9									1.7	4.2
WSW	0.3	0.6									0.9	4.7
W	1.1	1.8	0.2								3.1	5.4
WNW	0.7	2.9	0.7								4.4	8.1
NW	2.1	9.9	2.0	0.1							14.1	7.9
NNW	1.3	8.6	1.1	0.1							11.0	7.8
CALM												
7.1	19.8	67.1	5.7	0.3							7.1	
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

37,875

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

BPK

047W

Baldwin Park

STATION

STATION NAME

3/17/54-4/11/62

YEARS

ALL

DATE

ALL WEATHER

CLASS

34° 05', 117° 58', 376, 14436E, Ramona Blvd.

LOCATION

50'

HEIGHT ABOVE GROUND

ALL

WINDS (U.S.T.)

WIND DIRECTION	%	MEAN WIND SPEED
N	2.9	2.9
NNE	5.2	3.0
NE	10.1	2.6
NNE	8.6	2.4
E	5.2	2.1
ESE	4.5	1.9
SE	4.4	2.2
SSE	4.5	2.8
S	8.5	3.9
SSW	12.2	4.8
SW	16.6	4.9
WSW	8.6	3.4
W	4.4	2.1
WNW	2.3	1.9
NW	1.2	1.9
NNW	1.0	1.9
CALM	100.2	3.3

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

57,295

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93216

BEALE AFB CALIFORNIA

STATION

STATION NAME

43-44, 59-70

YEARS

ALL WEATHER

CLASS

39007', 121026', 125

LOCATION

HEIGHT ABOVE GROUND

ALL
MONTH

ALL
MONTHS (L.R.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.7	2.2	.8	.4	.1	.0	.0			.0		5.2	5.5
NNE	.6	.5	.2	.1	.0	.0	.0					1.3	5.1
NE	.6	.4	.1	.0	.0	.0	.0					1.2	4.3
ENE	.5	.4	.1	.0	.0	.0	.0					1.0	3.8
E	1.2	1.3	.3	.0	.0	.0	.0					2.7	4.1
ESE	1.1	2.0	.6	.1	.0	.0	.0					3.9	5.0
SE	1.4	2.9	2.5	1.2	.1	.0	.0					8.1	7.0
SSE	1.0	2.4	3.5	2.9	.5	.1	.0					10.4	9.1
S	2.5	4.7	5.0	2.6	.4	.2	.0	.0				15.4	7.7
SSW	1.1	2.1	1.3	.2	.0	.0	.0					4.7	5.8
SW	1.0	1.2	.4	.1	.0	.0	.0					2.7	4.8
WSW	.5	.5	.1	.0	.0	.0	.0					1.2	4.4
W	1.0	1.1	.2	.0	.0	.0	.0					2.3	4.1
WNW	1.0	1.3	.5	.1	.0	.0	.0					2.9	4.9
NW	1.2	2.1	1.1	.9	.2	.0	.0	.0				5.5	7.2
NNW	1.0	2.1	1.6	1.1	.3	.0	.0	.0				6.2	7.7
CALM												25.2	
25.2	17.4	27.1	18.2	9.9	1.8	.4	.1	.0		.0		100.0	5.0

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

111333

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Beaumont, California July 1938 thru February 1942

STATION NAME ALL WEATHER YEAR ALL MONTHS

ALL WEATHER CLASS LOCATION

33° 56', 116° 56', 2,592

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-15	16-31	32-47	>47							%	MEAN WIND SPEED
N	0.7	4.2	0.0	0.0								4.9	5.6
NNE	0.1	0.6	0.0	0.0								0.7	6.7
NE	0.7	3.5	0.3	0.0								4.5	7.5
ENE	0.2	3.3	2.0	0.2	0.0							5.7	14.7
E	0.5	5.5	3.4	0.2	0.0							9.6	14.1
ESE	0.1	5.4	2.5	0.1								5.1	15.7
SE	0.3	1.0	0.1	0.0								1.4	8.2
SSE	0.1	0.2	0.0									0.3	6.5
S	0.2	0.6	0.1									0.9	8.2
SSW	0.1	2.0	0.5	0.0								2.6	11.6
SW	0.6	10.8	0.6	0.0								12.0	9.0
WSW	0.2	9.2	0.3	0.0								9.7	9.0
W	0.7	11.0	0.1									11.8	7.6
WNW	0.2	9.3	0.2									9.7	8.6
NW	1.4	16.1	0.2									17.7	6.5
NNW	0.1	1.5	0.0									1.6	6.4
CAUA												1.8	9.1
1.8	6.2	81.2	10.3	0.5	0.0							100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

29,202

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Q35W STATION NAME Bell DATE 1/1/55-12/31/73 YEAR 1955

ALL WEATHER CLASS ALL ALL MONTHS ALL

LOCATION 35° 59', 118° 11', 150', 6301 South Garfield Avenue

HEIGHT ABOVE GROUND 35'

SPEED MPH DIR.																			%	MEAN WIND SPEED
N																			7.5	4.2
NNE																			0.1	4.2
NE																			15.6	4.3
ENE																			0.1	4.6
E																			7.8	4.9
ESE																			0.0	4.3
SE																			8.1	5.3
SSE																			0.0	6.3
S																			10.0	5.4
SSW																			0.1	5.8
SW																			15.8	6.6
WSW																			0.1	6.6
W																			22.5	7.6
WNW																			0.1	6.9
NW																			12.1	6.4
NNW																			0.0	6.2
CALM																			99.9	5.9

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS 152,439

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Berkeley LRL 1

March 1962 thru February 1968

ALL
MOATS

ALL WEATHER

CLASS

37° 52', 122° 15', 981'

LOCATION

40 ! tower on roof of Bldg. 4

HEIGHT ABOVE GROUND

SPEED MPH	1-3	4-10	11-21	22-27	>27					%	MEAN WIND SPEED
N	.59	.97	.05							1.61	
NNE	.61	.61	.01							1.23	
NE	.89	1.10	.20	.00						3.19	
ENE	1.10	1.52	.59	.03						3.24	
E	1.97	1.68	.45	.03						4.13	
ESE	2.46	1.87	.17							4.50	
SE	3.31	3.53	.39	.01						7.24	
SSE	3.59	4.76	1.13	.01						9.49	
S	3.12	4.44	.70	.01						8.27	
SSW	3.36	3.86	.18							7.40	
SW	3.24	3.30	.03							6.57	
WSW	3.17	4.28	.09							7.54	
W	4.02	6.45	.14							10.61	
WNW	3.65	4.86	.26							8.77	
NW	3.33	3.19	.13							6.65	
NNW	1.64	2.24	.08							3.96	
CALL										6.58	
6.58	40.05	48.66	4.60	.09						99.98	

DATA FROM University of California

TOTAL NUMBER OF OBSERVATIONS

0705

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23157

BISHOP APT CALIF

STATION

STATION NAME

48-72

YEARS

ALL

MONTH

ALL WEATHER

CLASS

37°22', 118°22', 4145'

LOCATION

40' before Dec. 1964, 20' after

HEIGHT ABOVE GROUND

ALL

MOUSE (L.B.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.7	4.1	2.7	3.4	1.6	.6	.1	.0	.0			14.3	10.0
NNE	.8	1.3	.9	1.3	.5	.2	.0	.0				4.9	9.5
NE	.5	1.2	.5	.2	.1	.0	.0					2.8	5.9
ENE	.3	.4	.1	.0	.0							.9	4.7
E	.6	.6	.2	.0	.0							1.4	4.7
ESE	.3	.5	.2	.0	.0	.0	.0					1.0	5.4
SE	.7	1.0	.5	.6	.1	.0	.0					3.3	7.6
SSE	.5	1.5	2.4	2.9	.8	.2	.0					8.3	10.5
S	1.0	3.3	4.0	3.8	1.0	.2	.0	.0				13.2	9.6
SSW	.5	1.7	1.4	1.0	.1	.0	.0					4.8	7.9
SW	.9	2.0	1.1	.5	.1	.0	.0	.0				4.6	6.5
WSW	.4	1.2	.6	.4	.1	.0	.0	.0				2.8	7.5
W	.8	2.0	1.2	.7	.2	.0	.0	.0				5.0	7.3
WNW	.7	2.1	1.3	.4	.1	.0	.0					4.6	6.7
NW	1.8	5.7	3.0	.9	.2	.0	.0					11.7	6.4
NNW	1.3	3.8	1.9	1.1	.3	.1	.0	.0				8.6	7.3
CALM												7.9	
7.9	13.3	32.2	22.4	17.4	5.1	1.5	.2	.0	.0			100.0	7.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

109147

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23225

BLUE CANYON CALIFORNIA APT

48-64

ALL

STATION

STATION NAME

CLASS

ALL WEATHER

CLASS

ALL

MOUSE (L.R.T.)

39°17', 120°42', 5282'

LOCATION

30 feet

HEIGHT ABOVE GROUND

SPEED (KTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.7	.8	.4	.1	.0	.0	.0					1.9	5.1
NNE	.6	.9	.8	.3	.1	.0	.0					2.5	6.7
NE	1.2	2.2	2.6	.9	.2	.1	.0	.0	.0			7.2	7.5
ENE	1.2	1.9	2.6	2.2	.7	.4	.1	.0	.0			9.1	10.0
E	1.9	2.3	1.2	.6	.1	.1	.0	.0	.0			6.1	6.1
ESE	1.3	2.3	1.7	.4	.0	.0	.0					5.6	6.
SE	.9	2.0	2.8	1.0	.1	.0	.0	.0				7.1	7.7
SSE	.6	1.5	3.1	2.2	.4	.2	.1	.0				8.0	9.8
S	.8	2.0	4.4	3.9	.8	.3	.1	.0	.0	.0		12.2	10.3
SSW	.7	1.8	4.3	4.6	.9	.4	.1	.1	.0	.0		13.0	11.2
SW	.9	2.1	3.9	1.8	.3	.2	.1	.0	.0	.0		9.3	8.9
WSW	.8	2.0	3.4	1.0	.0	.0	.0	.0				7.2	7.6
W	.8	1.8	2.1	.4	.0	.0	.0	.0				5.1	6.7
WNW	.4	.6	.6	.1	.0	.0						1.7	5.9
NW	.4	.5	.3	.0	.0	.0						1.3	5.3
NNW	.3	.4	.2	.0	.0							.9	5.4
VARBL													
1.7	13.3	24.9	34.4	19.5	3.7	1.7	.5	.2	.0	.0		100.0	8.4

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

92883

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23158

Blythe, Calif.

STATION

STATION NAME

1969 thru 1974

YEAR

ALL

WINDS

ALL WEATHER

CLASS

33° 37', 114° 43', 394'

LOCATION

ALL
MOSES (L.S.P.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-21	>21						%	MEAN WIND SPEED
N	0.2	3.9	2.9	2.3	0.7	0.2						10.3	9.2
NNE	0.1	1.3	0.7	0.3	0.1	0.0						2.4	7.2
NE	0.1	1.0	0.4	0.1	0.0	0.0						1.6	6.6
ENE	0.1	1.0	0.4	0.1	0.0	0.0						1.6	6.3
E	0.2	1.8	0.7	0.1	0.0	0.0						2.7	5.9
ESE	0.1	1.4	0.7	0.1	0.0	0.0						2.3	6.3
SE	0.1	1.7	1.3	0.3	0.0	0.0						3.5	7.0
SSE	0.1	1.9	2.4	1.4	0.2	0.0						5.9	8.6
S	0.2	3.7	6.2	5.3	0.7	0.1						16.2	9.7
SSW	0.1	1.8	2.0	1.6	0.3	0.0						5.8	9.3
SW	0.1	1.9	2.0	1.6	0.5	0.1						6.3	9.7
WSW	0.1	2.4	1.4	1.4	0.5	0.1						6.9	9.0
W	0.2	2.5	1.7	0.6	0.1	0.0						5.1	7.3
WNW	0.1	1.4	0.6	0.2	0.0	0.0						2.4	6.7
NW	0.1	2.1	1.3	0.6	0.2	0.1						4.4	7.9
NNW	0.2	2.8	2.1	1.6	0.5	0.2						7.3	9.2
AVG.	2.9	5.0	8.4	13.3	18.5	24.6						15.4	7.3
CALC.												100.0	
15.4	2.1	32.5	27.8	17.5	3.8	0.7							

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43800

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Brookings, Oregon

January 1937 - December 1942

STATION

STATION NAME

YEAR

ALL MONTH

ALL WEATHER

CLASS

42° 03', 124° 17', 44 M

LOCATION

ALL

WINDS (L.R.T.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	31-47	48-						%	MEAN WIND SPEED
N	8.5	0.2								8.7	
NNE	3.1	0.1								3.2	
NE	11.1	0.2								11.3	
ENE	0.7	0								0.7	
E	2.1	0								2.1	
ESE	0.7	0	0							0.7	
SE	7.9	1.5	0.1	0						9.5	
SSE	1.3	0.2	0							1.5	
S	7.2	1.0	0.1							8.3	
SSW	0.3	0.1								0.4	
SW	4.0	0.3	0							4.3	
WSW	0.2	0								0.2	
W	4.4	0.2								4.6	
WNW	0.6	0								0.6	
NW	7.8	1.1								8.9	
NNW	0.3	0								0.3	
CALM											
34.6	60.2	4.9	0.2	0						34.6	
										99.9	

Data from Columbia Basin Climatological Handbook

TOTAL NUMBER OF OBSERVATIONS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Buena Park

STATION NAME

1959-1974

ALL

TEAM

ALL WEATHER

CLASS

33° 53', 118° 01', 16608 Lemont Avenue

LOCATION

351

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

126.272

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23152
STATION

Burbank, CA

STATION NAME

1960-1964

YEAR

ALL WEATHER
CLASS

ALL
BOATS

ALL
MOVES (L.B.T.)

34°12', 118° 22', 725'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH Dir.	1-3	4-6	7-10	11-16	17-21	> 21				%	MEAN WIND SPEED
N	1.3	1.8	0.4	0.3	0.1	0.0				3.9	5.2
NNE	0.8	0.7	0.1	0.2	0.1	0.1				2.0	6.2
NE	0.7	0.5	0.1	0.2	0.1	0.0				1.6	6.0
NNE	0.9	1.0	0.2	0.1	0.0	0.0				2.2	4.5
E	1.4	2.6	0.7	0.1	0.0	0.0				4.8	4.7
ESE	1.6	5.4	4.6	0.7	0.0	0.0				12.3	6.3
SE	1.0	3.3	3.3	0.5	0.0	0.0				8.1	6.5
SSE	1.1	4.2	5.1	0.8	0.0					11.4	6.8
S	2.0	6.1	8.5	1.6	0.0					18.2	6.9
SSW	2.0	2.4	2.4	0.5	0.0					7.3	5.9
SW	1.3	1.3	0.5	0.1						3.2	4.4
WSW	1.0	0.8	0.2	0.1	0.0					2.1	4.1
W	1.2	1.1	0.4	0.1	0.0					2.8	4.6
WNW	1.3	1.8	0.8	0.3	0.1	0.0				4.3	5.4
NW	1.6	1.7	0.7	0.4	0.2	0.1				4.8	5.8
NNW	1.5	2.1	0.8	0.7	0.2	0.1				5.5	6.5
AVG.	2.3	4.9	8.3	12.4	18.5	24.8					
CALC.											
5.7	20.7	36.9	28.9	6.8	0.8	0.3				5.7	5.7
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 43773

SURFACE WINDS

 PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

3216

STATION NAME

Cambria California - Harmony Field June 1943 thru Oct. 1944

STATION NAME

ALL WEATHER

TIME

ALL

MOON

CLASS

ALL

POWER (L.B.T.)

35° 34', 121° 07', 98'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH Dir.	1-3	4-12	13-24	25-31	32-46	>47						%	MEAN WIND SPEED
N	1.2	6.2	0.1									7.5	5.5
NNE	1.2	2.8	0.0									4.0	4.8
NE	3.4	10.1										13.5	4.7
ENE	1.4	3.2										4.6	4.4
E	1.5	1.3	0.0									2.8	3.7
ESE	0.4	0.7	0.1									1.3	6.2
SE	1.0	1.9	0.1									3.0	4.9
SSE	0.7	2.7	0.3	0.1	0.0							3.8	7.2
S	1.5	3.6	0.1									5.3	5.3
SSW	0.5	1.5	0.2	0.0								2.2	6.2
SW	1.3	3.0	0.0									4.3	4.7
WSW	0.6	1.5	0.1	0.0								2.2	5.9
W	2.0	7.2	0.4	0.0								9.6	6.0
WNW	0.6	5.0	1.2	0.1	0.0							7.0	8.9
NW	2.2	14.4	5.4	0.1	0.0							22.1	9.2
NNW	1.0	3.9	0.5									5.4	6.7
CAIM												1.4	
1.4	20.5	69.2	8.5	0.3	0.1							100.0	6.4

 DATA FROM NATIONAL CLIMATIC CENTER
 FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

12,150

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

03154
STATION

CAMP PENDLETON, CALIFORNIA MCB

66-72

ALL

YEAR

BORTH

ALL

MOUSE (L.S.T.)

ALL WEATHER

CLASS

33°18', 117°21', 62'

LOCATION

42' before Dec. 1968, 85' after

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.8	.3	.1	.1	.0							1.4	4.3
NNE	1.2	1.0	.3	.1	.0							2.6	4.6
NE	1.4	1.8	.6	.1	.0							3.9	4.7
ENE	1.3	1.5	.6	.1								3.5	4.6
E	1.4	1.1	.3	.0	.0							2.9	4.1
ESE	.7	.4	.1	.0								1.2	3.7
SE	.4	.3	.2	.1	.0	.0						1.0	5.3
SSE	.7	.9	.5	.2	.0	.0						2.4	5.9
S	1.9	2.3	1.1	.4	.1	.0	.0					5.7	5.5
SSW	1.6	3.4	2.7	.4	.0							8.1	6.1
SW	1.2	3.9	4.5	1.3	.1							10.9	7.1
WSW	1.6	4.7	5.8	2.3	.2	.0						14.6	7.5
W	1.7	4.8	7.0	2.3	.2	.0						16.0	7.5
WNW	.5	.8	1.3	.8	.1	.0		.0				3.4	8.0
NW	.2	.3	.2	.1	.0							.8	5.9
NNW	.3	.2	.0	.1								.5	4.6
CAUA												20.9	
20.9	17.0	27.5	25.5	8.3	.7	.1	.0	.0				100.0	5.1

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

23684

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

CPK

062W

STATION

STATION NAME

Canoga Park

1/1/56 - 12/31/74

YEAR

ALL

DATA

ALL WEATHER

CLASS

34° 12' 118° 36' 800' 7507 Canoga Park

LOCATION

25'

HEIGHT ABOVE GROUND

ALL

DATA (L.S.E.)

SPEED MPH DIRE.																			%	MEAN WIND SPEED
N																			4.4	3.5
NNE																			5.1	2.5
NE																			5.0	2.0
ENE																			3.4	3.1
E S																			2.1	2.3
ESE																			2.1	2.6
SE																			6.6	2.6
SSE																			4.8	2.6
S																			5.3	2.6
SSW																			3.2	2.5
SW																			5.5	2.1
WSW																			8.3	2.0
W																			12.6	1.8
WNW																			8.3	2.2
NW																			8.6	2.6
NNW																			4.9	2.8
CALM																			100.2	2.9

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

159,672

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23203
STATION

CASTLE AFB CALIF/MERCED

42-72

YEAR

ALL

MONTH

ALL

HOUSE (L.R.T.)

ALL WEATHER

CLASS

37022', 12034', 177'

LOCATION

15'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	%	MEAN WIND SPEED
N	1.6	3.0	3.7	1.1	1.1	.0	.0				9.4	7.0
NNE	.5	.5	.3	.1	.0	.0					1.4	5.2
NE	.4	.3	.1	.0	.0						.8	4.4
ENE	.2	.2	.1	.0	.0	.0					.5	4.3
E	.7	.5	.2	.0	.0	.0	.0				1.6	4.5
ESE	.8	.9	.6	.3	.1	.0	.0	.0			2.7	6.6
SE	1.1	1.5	1.4	.7	.3	.1	.0	.0			5.2	8.1
SSE	.6	.9	.8	.4	.2	.1	.0	.0			2.9	7.6
S	.8	1.0	.5	.1	.0	.0	.0				2.4	5.3
SSW	.5	.4	.2	.0	.0	.0					1.1	4.8
SW	.5	.5	.3	.1	.0	.0					1.4	5.2
WSW	.3	.5	.3	.1	.0	.0					1.2	5.9
W	1.0	1.3	.8	.1	.0	.0					3.3	5.4
WNW	1.0	2.8	2.8	.6	.1	.0	.0				7.3	6.7
NW	1.7	5.4	9.3	3.1	.5	.1	.0	.0			20.1	8.1
NNW	1.4	4.7	8.3	3.5	.4	.1	.0	.0			18.5	8.4
CALM											20.3	
20.3	13.1	24.5	29.7	10.2	1.7	.5	.1	.0			100.0	5.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

260322

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION	Central Stony Site	1964-1970	ALL
STATION NAME		YEAR	NORTH
ALL WEATHER			ALL
CLASS			MOVES (L.R.T.)
LOCATION	35° 58', 121° 16', 1319'		
	10'		
HEIGHT ABOVE GROUND			

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-31	> 31			%	MEAN WIND SPEED
N										1.59	
NNE										3.69	
NE										8.20	
ENE										5.26	
E										2.13	
ESE										4.13	
SE										4.38	
SSE										3.29	
S										2.48	
SSW										1.58	
SW										3.40	
WSW										6.74	
W										2.58	
WNW										1.13	
NW										1.45	
NNW										1.50	
CALM											
46.49	30.01	15.82	6.60	0.96	0.10	0.02				46.49	
										100.00	

DATA FROM Hunter Liegett Military Reservation

TOTAL NUMBER OF OBSERVATIONS 56842

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Chico, California AAF

May 1942 thru December 1945

ALL

STATION NAME

YEAR

BORTH

ALL WEATHER

CLASS

ALL

HOURS (L.R.T.)

39° 48', 121° 51', 253'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	> 47					%	MEAN WIND SPEED
N	0.9	4.0	0.5	0.1	0.0						4.5	7.0
NNE	0.5	2.3	0.1	0.0							2.4	6.0
NE	1.2	5.4	0.2	0.0							5.5	5.7
ENE	0.4	1.9	0.0								2.0	5.0
E	0.8	3.0	0.1	0.0							3.1	5.3
ESE	0.5	3.5	0.5	0.0							3.9	7.6
SE	1.0	8.9	5.1	0.8	0.1	0.0					14.9	11.7
SSE	0.8	7.4	3.9	0.3	0.1	0.0					11.8	11.1
S	1.4	8.4	1.7	0.0	0.0						10.2	8.1
SSW	0.5	2.5	0.1	0.0							2.4	6.5
SW	0.7	2.3	0.1	0.0							2.5	5.4
WSW	0.3	1.0	0.0								1.0	5.1
W	1.0	2.6	0.1	0.0							2.7	5.2
WNW	0.5	2.1	0.3	0.0	0.0						2.4	7.1
NW	1.2	7.5	3.5	0.7	0.1						11.7	10.9
NNW	0.5	4.0	1.3	0.2	0.0						5.6	9.8
CALM												
1.4	12.0	66.7	17.5	2.1	0.3	0.0					100.0	8.4

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

31,535

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93104

CHINA LAKE, CALIF/INYOKERN NWSE

45-72

ALL

STATION

STATION NAME

YEAR

MONTH

ALL WEATHER

CLASS

ALL

MOVES (L.R.T.)

35041', 117041', 2238'

LOCATION

18'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.8	.6	.4	.4	.3	.2	.0	.0	.0			2.8	9.3
NNE	.4	.3	.1	.1	.1	.0	.0	.0				1.0	7.4
NE	.6	.6	.2	.1	.0	.0	.0					1.5	4.7
ENE	.4	.3	.1	.0	.0	.0						.8	4.5
E	1.2	1.7	.8	.2	.0	.0	.0	.0				3.9	5.3
ESE	.6	1.1	.6	.1	.0	.0	.0					2.4	5.7
SE	1.2	2.1	1.3	.3	.0	.0	.0	.0				5.0	5.8
SSE	.6	1.1	.7	.2	.1	.0	.0	.0				2.8	6.4
S	1.5	2.6	2.5	2.0	1.0	.4	.1	.0	.0			10.3	9.6
SSW	.8	1.7	2.3	2.3	1.0	.5	.1	.0	.0			8.7	10.9
SW	1.8	3.9	4.4	3.3	1.6	1.0	.3	.1	.0	.0		16.4	10.5
WSW	1.0	1.7	1.6	1.1	.7	.6	.2	.1	.0	.0		6.9	10.8
W	1.7	2.5	1.7	1.4	.9	.5	.2	.1	.0	.0		8.9	9.7
WNW	.5	.6	.4	.4	.2	.1	.0	.0	.0	.0		2.3	9.1
NW	.8	1.0	.6	.5	.2	.1	.0	.0	.0			3.2	7.7
NNW	.4	.4	.3	.3	.1	.1	.0	.0	.0	.0		1.6	9.3
CALA												21.5	
21.5	14.3	22.3	18.1	12.8	6.2	3.5	1.1	.3	.0	.0	.0	100.0	7.1

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

207031

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23196
STATION

Chula Vista, Brown Field, CA

April 1945-May 1946, July 1954-May 1955

ALL
MONTH

STATION NAME

ALL WEATHER

CLASS

ALL
HOURS (L.S.T.)

33° 35', 116° 58', 525'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH Dir.	3-7	8-12	13-20	21-30	31-40	>40				%	MEAN WIND SPEED
N	2.6	0.5	0.0							3.1	
NNE	0.5	0.0								0.5	
NE	1.3	0.1	0.1							1.4	
NNE	0.4	0.1	0.0							0.5	
E	4.4	1.4	0.4	0.1						6.3	
ESE	1.9	1.0	0.3	0.1						3.2	
SE	5.0	2.6	0.6	0.0						8.2	
SSE	0.4	0.2	0.1	0.0						0.8	
S	1.8	0.7	0.4	0.1						3.0	
SSW	0.4	0.3	0.2							0.9	
SW	1.7	1.5	0.2	0.0						3.4	
WSW	0.8	1.3	0.3							2.5	
W	10.4	12.3	2.6	0.0						25.3	
WNW	2.3	2.4	0.3	0.0						5.0	
NW	7.4	8.6	0.9	0.0						16.9	
NNW	0.8	0.2	0.0							1.0	
CALM										18.1	
18.1	42.1	33.2	6.3	0.3						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 12852

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NAME Cloverdale Peak PG&E Nov. 1972 thru Oct. 1974 ALL
ALL
MOON (L.R.T.)

ALL WEATHER

CLASS

38° 53'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR	1-3	4-7	8-12	13-18	19-24	25-50	> 50				%	MEAN WIND SPEED
N	1.5	10.2	11.1	1.8	0.1						24.7	8.0
NNE	1.0	3.5	0.5	0.0							5.1	5.1
NE	0.9	2.6	0.6	0.1	0.0						4.2	5.5
ENE	0.5	2.4	1.0	0.1							4.0	6.5
E	0.4	3.1	1.7	0.2	0.0						5.5	7.1
ESE	0.3	0.6	0.3	0.1							1.3	6.3
SE	0.6	0.9	0.5	0.1							2.1	6.0
SSE	0.7	1.8	1.0	0.6	0.1						4.1	7.6
S	0.7	2.8	2.9	2.3	1.2	0.8					10.6	12.0
SSW	0.4	1.6	2.1	1.2	0.4	0.3					5.9	11.0
SW	0.6	3.5	2.9	0.8	0.2	0.0					8.0	8.2
WSW	1.1	3.4	1.1	0.2	0.0	0.0					5.8	6.0
W	1.7	2.7	0.6	0.1							4.9	4.9
WNW	1.3	1.0	0.2								2.5	3.9
NW	1.5	3.1	0.5	0.0							5.1	4.9
NNW	0.7	3.2	1.8	0.2	0.1						5.9	6.6
Cal'm											0.1	7.6
0.1	13.8	46.5	28.7	7.7	2.0	1.1					100.0	

DATA FROM **Pacific Gas and Electric Company**

TOTAL NUMBER OF OBSERVATIONS

12678

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Coalinga, CA STATION NAME Jan. 1932 - thru Dec. 1932 YEAR

ALL MONTH

ALL WEATHER

CLASS

36°08', 120° 21', 676'

LOCATION

HEIGHT ABOVE GROUND

HOUSE (L.R.T.)

SPEED MPH Dir.	4-15	16-31	>31															%	MEAN WIND SPEED
N	5.2	0.6																5.8	
NNE	2.8	0.1																2.9	
NE	12.6	0.1																12.6	
ENE	0.7																	0.7	
E	11.2	0.1																11.3	
ESE	0.4																	0.4	
SE	3.9																	3.9	
SSE	0.6	0.1																0.7	
S	7.6	1.0	0.0															8.6	
SSW	1.3	0.4																1.7	
SW	8.5	0.6																9.0	
WSW	0.6																	0.6	
W	3.2	0.2																3.4	
WNW	0.1	0.2																0.3	
NW	2.5	0.1																2.6	
NNW	0.4																	0.4	
CALM																			
35.2	61.5	3.3	0.0															35.2	
																		100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

2,532

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

COM

024W
STATION

Compton

STATION NAME

12/22/54 - 4/12/66
YEAR

ALL
MONTH

ALL WEATHER

CLASS

33° 54', 118° 13', 100', 212 Acacia Street

LOCATION

40'

HEIGHT ABOVE GROUND

ALL
MONTH (L.A.T.)

SPEED MPH DIR.																			%	MEAN WIND SPEED
N																			6.1	3.3
NNE																			3.6	2.8
NE																			4.9	2.7
ENE																			4.2	3.1
E																			7.2	3.2
ESE																			4.7	3.2
SE																			5.0	3.3
SSE																			4.5	4.0
S																			6.0	3.7
SSW																			3.0	3.5
SW																			4.6	3.6
WSW																			8.7	5.2
W																			19.9	5.9
WNW																			10.1	5.4
NW																			5.0	3.6
NNW																			2.5	3.1
CALA																			100.0	4.2

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

79,341

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Concord DATE January 1951 - July 1953 YEAR 1953

ALL MONTHS

ALL WEATHER CLASS

ALL MONTHS (L.A.T.)

37°59' N, 122°03' W

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.																		%	MEAN WIND SPEED
N																		6.5	7.8
NNE																			
NE																		1.5	8.0
ENE																			
E °																		0.2	7.5
ESE																			
SE																		4.8	9.4
SSE																			
S																		26.2	10.3
SSW																			
SW																		14.5	9.4
WSW																			
W																		9.2	8.5
WNW																			
NW																		4.5	8.4
NNW																			
CALM																		32.5	8.7
																		99.9	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

24286

Crescent City, CA, FAA

Oct. 1949 - Dec. 1954

STATION NAME

YEAR

ALL

BOTH

ALL WEATHER

CLASS

41° 47', 124° 14', 56'

LOCATION

ALL

HOURS (L.M.T.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-10	11-21	22-27	28-40	> 41						%	MEAN WIND SPEED
N	.7	1.6	.8	.0								3.2	8.3
NNE	.9	1.6	.2	.0								2.7	5.7
NE	1.8	2.0	.1									3.9	4.4
ENE	2.5	3.1	.0									5.6	4.2
E	1.3	1.6	.0									2.9	4.2
ESE	1.0	1.7	.1		.0							2.9	5.1
SE	1.3	3.8	1.7	.3	.1							7.1	8.8
SSE	1.5	10.2	6.5	.7	.3	.0						19.2	10.5
S	.9	4.0	1.5	.2	.1	.0						6.6	9.0
SSW	.7	2.7	1.0	.2	.0	.0						4.6	8.9
SW	.3	.9	.2	.0	.0							1.5	7.4
WSW	.5	1.4	.3	.0	.0							2.3	7.1
W	.5	1.1	.2									1.7	6.0
WNW	.9	3.9	1.2	.2	.1	.0						6.3	8.8
NW	.7	3.5	2.6	1.0	.6	.0						8.3	13.2
NNW	.8	4.2	4.5	1.1	.1							10.6	12.4
CALA												10.6	
10.6	16.2	47.3	21.0	3.8	1.2	.0						100.0	8.1

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

45,662

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NAME Crows Landing YEAR 1944 through February 1945 ALL
STATION NUMBER 3 obs/day
CLASS 37°25', 121°06', 158' LOCATION
HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-10	11-21	22-27	28-40	> 40															%	MEAN WIND SPEED
N	5.0	22.0	13.1	0.7	0.1																41.0	8.9
NNE																						
NE	2.9	3.3	0.4																		6.6	4.5
ENE																						
E	4.3	4.2																				
ESE																						
SE	2.4	6.8	1.9		0.1																8.4	3.8
SSE																						
S	3.7	5.6	1.3																		11.2	7.1
SSW																						
SW	1.7	0.9	0.7	0.1																	10.6	5.8
WSW																						
W	1.7	1.7	0.4	0.1																	3.3	5.8
WNW																						
NW	1.5	2.7	5.2	2.2	1.0																4.1	5.2
NNW																					12.6	15.3
CALA																					2.2	8.0
2.2	23.2	47.3	23.0	3.0	1.1																100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 1,227

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23161
STATION

Daggett, CA FAA

1955 - 1964

ALL
MONTH

ALL WEATHER

CLASS

34 52', 116 47', 1,929'

LOCATION

ALL
MONTH (L.A.T.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-21	> 21					%	MEAN WIND SPEED
N	0.1	0.6	0.5	0.2	0.0	0.0					1.4	7.5
NNE	0.1	0.4	0.4	0.2	0.1	0.0					1.2	8.5
NE	0.1	1.0	1.0	0.2	0.0						2.4	7.4
ENE	0.1	0.7	0.9	0.3	0.0	0.0					1.9	7.7
E	0.1	1.3	1.6	0.6	0.1	0.0					3.7	8.0
ESE	0.1	0.7	0.7	0.3	0.1	0.0					1.9	8.1
SE	0.1	0.8	0.4	0.1	0.0	0.0					1.4	6.7
SSE	0.0	0.3	0.1	0.0	0.0	0.0					0.5	6.8
S	0.0	0.3	0.1	0.0	0.0	0.0					0.6	6.9
SSW	0.0	0.2	0.1	0.1	0.0	0.0					0.5	9.9
SW	0.1	0.5	0.6	0.8	1.0	0.4					3.3	14.1
WSW	0.1	0.9	2.1	3.4	3.8	1.3					11.6	15.1
W	0.1	2.7	8.7	6.3	3.3	1.4					22.5	12.1
WNW	0.1	3.2	11.0	8.1	2.0	0.5					24.9	10.8
NW	0.1	1.9	4.2	2.2	0.2	0.0					8.6	9.2
NNW	0.1	0.6	0.7	0.3	0.0	0.0					1.7	8.0
AVE.	2.8	5.1	8.8	13.0	18.8	25.0					11.8	9.8
CALM											100.0	
11.8	1.3	16.0	83.4	23.0	10.8	3.7						

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

87,556

SURFACE WINDS

 PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

Davenport, CA

January 1971 through December 1971

ALL

STATION NAME

YEARS

ALL WEATHER

CLASS

37°00', 122°11'

LOCATION

ALL

MOUSE (L.R.V.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-15	16-25	> 25						%	MEAN WIND SPEED
N	2.8	4.0	0.7	0.1							7.6	4.7
NNE	2.0	2.3	0.2	0.2							4.7	4.6
NE	3.2	2.2	0.1	0.0							5.5	3.4
ENE	1.3	0.8	0.1								2.2	3.5
E *	2.2	1.2	0.7	0.0	0.0						4.0	4.5
ESE	1.7	1.2	1.1	0.3	0.0						4.3	6.2
SE	1.7	1.4	1.3	0.4	0.1						4.8	7.0
SSE	1.0	1.5	1.0	0.2	0.0						3.6	6.6
S	1.4	1.4	0.2	0.1							3.0	4.2
SSW	0.6	0.5	0.1	0.1							1.3	4.5
SW	0.8	0.6	0.1	0.0							1.6	4.3
WSW	0.6	0.5	0.1								1.2	4.0
W	0.9	1.6	0.3	0.1							2.9	5.2
WNW	0.9	2.3	3.7	1.7	0.0						8.6	10.2
NW	1.9	4.2	11.5	12.9	0.9						31.4	14.1
NNW	2.6	6.0	3.9	0.4							12.9	6.6
CALM											0.5	8.5
0.5	25.4	31.7	25.2	16.2	1.1						100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

7,458

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Desert Center, California AAF June 1943 thru March 1944

ALL
MONTH

STATION

ALL WEATHER

CLASS

33° 45' 115° 20' 541'

LOCATION

ALL
MOON (L.P.T.)

HEIGHT ABOVE GROUND

SPEED DIR.	1-3	4-12	13-24	25-31	32-46	7-47												%	MEAN WIND SPEED
N	0.4	1.5	0.1															2.0	6.4
NNE	0.4	1.5	0.2		0.0													2.1	6.7
NE	0.5	2.1	0.2	0.0	0.0													2.8	6.8
ENE	0.9	3.1	0.3	0.0														4.3	6.6
E	0.9	4.5	0.3		0.1													5.7	6.7
ESE	0.6	4.5	0.9	0.0														6.1	8.2
SE	0.6	2.4	0.3	0.0														3.4	6.5
SSE	0.5	1.8	0.3															2.7	7.2
S	0.7	1.7	0.2	0.0														2.6	6.0
SSW	0.5	2.2	0.6	0.0														3.3	6.1
SW	0.5	1.7	0.5	0.0														2.7	7.6
WSW	1.2	8.1	2.5	0.1														11.8	8.0
W	2.0	18.7	0.9															21.5	6.8
WNW	1.5	12.3	0.4	0.0														14.2	6.9
NW	0.6	5.5	1.8	0.1														8.0	9.7
NNW	0.5	3.3	1.5	0.0														5.4	9.6
DATA																		1.4	7.5
1.4	12.3	74.8	11.0	0.4	0.1													100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

6,669

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NO. Diablo Canyon, CA STATION NAME May 1973 thru April 1974 YEAR 1974 ALL MONTHS ALL

ALL WEATHER ALL
CLASS POSS (L.R.T.)

35°13', 120°49'
LOCATION

33 feet
HEIGHT ABOVE GROUND

Mean SPEED MPH Dir.	1.5	5.1	9.6	15.1	21.1	29.6	40.1	50.1				%	MEAN WIND SPEED
N	0.7	2.5	1.8	0.5	0.1	0.1						5.6	7.1
NNE	0.9	2.3	0.9	0.2	0.0	0.0						4.1	5.9
NE	1.0	1.8	0.8	0.2	0.0							3.8	5.7
ENE	1.0	1.0	0.5	0.3	0.0	0.0	0.0					2.8	5.6
E	1.2	1.2	0.3	0.1	0.0	0.0						2.9	4.8
ESE	1.1	2.3	1.1	0.6	0.4	0.1	0.0					5.6	7.8
SE	0.9	3.8	2.2	0.9	0.3	0.3	0.0					8.5	8.4
SSE	0.8	2.5	0.6	0.2	0.1	0.1						4.4	7.0
S	0.6	1.0	0.2	0.1	0.0	0.0						1.9	4.7
SSW	0.6	0.6	0.1	0.0	0.0	0.0						1.3	4.4
SW	0.6	0.5	0.1	0.2	0.0	0.0						1.5	5.8
WSW	0.4	0.5	0.1	0.0	0.0							1.1	5.0
W	0.7	0.7	0.2	0.1	0.0	0.0						1.8	5.3
WNW	0.9	3.5	2.3	1.2	0.5	0.3						8.6	8.9
NW	1.1	4.7	7.0	8.9	7.3	5.6	0.3					34.9	15.8
NNW	0.9	2.7	2.9	2.6	1.4	0.6	0.0					11.0	11.9
CALM												0.2	10.6
0.2	13.0	31.6	21.1	16.2	10.3	7.1	0.3					100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

17,228

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Diablo Canyon, CA, May 1973 thru April 1975 ALL
STATION NAME YEAR MONTH

CLASS ALL
LOCATION 35°13', 120°49'
HEIGHT ABOVE GROUND 249 feet

ALL WEATHER

CLASS

LOCATION

249 feet

HEIGHT ABOVE GROUND

Mean

SPEED MPH DIR.	1.5	5.1	9.6	15.1	21.1	29.6	40.1	50.1	%	MEAN WIND SPEED
N	0.6	1.9	1.4	1.1	0.2	0.0			5.3	8.5
NNE	0.4	1.3	1.1	0.8	0.1	0.0			3.8	8.8
NE	0.3	1.0	0.8	0.5	0.1	0.0			2.8	8.5
ENE	0.3	0.9	0.5	0.3	0.0		0.0		2.0	7.5
E	0.4	0.8	0.2	0.1	0.0	0.1	0.0		1.6	7.2
ESE	0.8	1.6	0.9	0.7	0.3	0.1			4.3	8.2
SE	1.4	4.8	2.6	1.0	0.4	0.3	0.1	0.0	10.7	8.1
SSE	1.1	2.1	0.6	0.2	0.3	0.3	0.1		6.4	8.3
S	0.9	1.1	0.2	0.1	0.0	0.0			2.3	4.9
SSW	0.7	0.7	0.2	0.1	0.0				1.7	4.6
SW	0.5	0.7	0.2	0.1	0.0				1.5	5.6
WSW	0.7	0.5	0.2	0.1	0.0				1.5	4.9
W	0.9	1.5	0.2	0.2	0.0	0.0			2.5	5.3
WNW	0.9	3.0	1.8	0.9	0.2	0.1			6.9	7.9
NW	1.2	5.0	7.9	9.9	7.4	3.0	0.0	0.0	34.6	14.3
NNW	0.7	2.9	3.7	3.6	1.4	1.0	0.0		13.3	12.1
CALM									0.7	10.5
0.7	11.7	29.5	22.5	19.8	10.7	4.8	0.2	0.0	100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

17,200

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

DOM
Q8QW

Dominguez

STATION NAME

ALL WEATHER

CLASS

33° 50' 118° 14' 30' 21718 S. Alameda Avenue

LOCATION

30

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

97,940

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Donner Summit California
STATION NAME

1934 thru 1938

ALL
MONTH

ALL WEATHER

CLASS

39° 19', 120° 20', 7, 195'

LOCATION

30 feet

HEIGHT ABOVE GROUND

SPEED MPH	4-15	16-31	32-47	>47						%	MEAN WIND SPEED
DIR.											
N	0.4	0.0	0.0							0.4	
NNE	0.1	0.0								0.1	
NE	2.7	0.4	0.1	0.0						3.2	
ENE	1.4	0.7	0.2	0.0						2.4	
E	14.5	4.5	0.7	0.1						19.9	
ESE	2.3	1.2	0.1	0.0						3.6	
SE	1.5	0.2	0.0							1.7	
SSE	0.1	0.0	0.0							0.1	
S	0.3	0.0								0.3	
SSW	0.3	0.1	0.0							0.5	
SW	4.4	2.7	0.6	0.0						7.7	
WSW	5.8	7.9	1.7	0.3						15.8	
W	17.4	16.0	2.2	0.2						35.7	
WNW	1.3	0.7	0.0							2.0	
NW	1.2	0.1	0.0							1.3	
NNW	0.1	0.0								0.1	
CALL										5.1	
5.1	53.8	34.8	5.7	0.6						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43,763

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

RLA
022W

Downey

STATION NAME

5/53 - 12/74

YEAR

ALL
DATA

ALL WEATHER

CLASS

330 57' 118° 10', 120' NW 7601 E. Imperial Hwy.

LOCATION

30'

HEIGHT ABOVE GROUND

ALL
DATA (LAT.)

SPEED MPH DIR.																		%	MEAN WIND SPEED
N																		8.7	2.8
NNE																		2.5	4.0
NE																		2.5	3.0
ENE																		2.7	4.7
E																		6.2	3.1
ESE																		1.7	4.4
SE																		8.7	3.0
SSE																		1.4	4.8
S																		11.3	2.9
SSW																		1.2	5.2
SW																		18.4	5.2
WSW																		4.9	2.6
W																		13.0	5.9
WNW																		2.3	6.0
NW																		2.8	3.2
NNW																		1.7	4.0
CALM																			
																		100.0	4.4

TOTAL NUMBER OF OBSERVATIONS

160,585

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23114
STATION

EDWARDS AFB CALIFORNIA

62-72

ALL
MONTH

STATION NAME

YEARS

ALL WEATHER

CLASS

34°55', 117°54', 2316'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.8	.7	.2	.1	.0	.0						1.8	4.5
NNE	1.0	1.3	.4	.1	.0	.0						2.9	5.2
NE	.8	.9	.4	.2	.1	.0	.0					2.4	5.9
ENE	.5	.6	.5	.3	.0	.0	.0					2.0	6.8
E	.6	.8	.5	.3	.1	.0						2.3	6.6
ESE	.4	.4	.1	.0	.0	.0						.9	4.6
SE	.3	.3	.1	.0	.0	.0						.7	4.5
SSE	.3	.3	.1	.0	.0	.0						.6	4.3
S	.8	1.0	.4	.1	.0	.0						2.2	4.7
SSW	1.0	2.7	2.0	.4	.1	.0	.0					6.3	6.5
SW	1.4	4.3	5.3	3.7	1.4	.3	.0	.0				16.6	9.3
WSW	1.2	2.8	4.6	6.2	2.2	.4	.0					17.3	11.0
W	1.5	2.4	3.1	4.3	1.5	.4	.0	.0				13.3	10.5
WNW	1.3	1.8	1.0	1.8	1.1	.4	.1	.0				7.5	10.5
NW	.9	.9	.4	.5	.3	.1	.0					3.0	7.7
NNW	.4	.3	.1	.1	.0		.0					.9	5.0
CAUA												19.3	
19.3	13.1	21.5	19.2	18.2	6.8	1.7	.2	.0				100.0	7.2

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

86311

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23199

EL CENTRO CALIFORNIA NAAS

45-60

ALL

STATION

STATION NAME

YEAR

MONTH

ALL WEATHER

CLASS

ALL

MOUSE (L.R.T.)

32°49', 115°40', -43'

LOCATION

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.0	1.4	1.0	.6	.3	.1	.0	.0				4.5	7.8
NNE	.6	.8	.5	.2	.1	.0	.0					2.3	6.6
NE	.9	1.2	.6	.1	.0	.0	.0					2.9	5.2
ENE	.5	.8	.4	.1	.0	.0						1.8	5.2
E	1.1	1.8	1.0	.1	.0	.0	.0					4.1	5.3
ESE	.7	1.4	1.2	.4	.0	.0	.0					3.7	6.4
SE	1.5	2.9	2.7	.8	.1	.0	.0					8.1	6.6
SSE	.8	1.6	1.5	.4	.0	.0	.0					4.4	6.5
S	1.3	2.0	1.2	.2	.0	.0	.0					4.8	5.4
SSW	.8	1.1	.5	.1	.0	.0						2.5	5.2
SW	1.5	2.1	1.2	.5	.3	.1	.0	.0				5.9	7.0
WSW	1.0	2.1	2.5	2.7	2.1	1.2	.3	.0	.0			11.9	12.6
W	2.1	4.7	5.8	3.6	2.1	1.0	.2	.0	.0			19.6	10.1
WNW	1.1	2.7	3.0	1.2	.4	.1	.0	.0				8.6	8.0
NW	1.4	2.3	1.7	.5	.1	.0	.0	.0	.0	.0		6.1	6.3
NNW	.6	1.0	.8	.5	.2	.1	.0					3.2	7.8
VARBL													
CALA												5.7	
5.7	17.1	30.0	25.7	12.2	5.7	2.8	.6	.1	.0	.0		100.0	7.6

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

121517

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

WNR
049W

El Monte

1/1/55 - 12/31/65

STATION NAME

ALL WEATHER

CLASS

34° 05', 118° 02', 280' 825 N. Lexington-Gallatin Rd.

LOCATION

30.

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

69,678

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93101

El Torro, CA MCAS

1945 - 1972

STATION NAME

YEARS

ALL

ALL WEATHER

CLASS

33°40', 117°44', 383'

LOCATION

9'

HEIGHT ABOVE GROUND

SPEED knots DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40			%	MEAN WIND SPEED
N	1.2	0.7	0.1	0.1	0.0	0.0	0.0	0.0			2.2	4.0
NNE	0.8	0.5	0.2	0.2	0.1	0.0	0.0	0.0			1.9	6.2
NE	2.0	1.7	0.4	0.5	0.3	0.1	0.0	0.0			5.1	6.3
NNE	2.0	2.0	0.4	0.2	0.1	0.0	0.0	0.0			4.7	4.8
E	4.1	4.4	1.0	0.1	0.0	0.0	0.0	0.0			9.6	4.2
ESE	2.1	2.4	0.7	0.1	0.0	0.0					5.4	4.4
SE	2.6	2.8	1.0	0.2	0.0	0.0					6.5	4.6
SSE	1.7	2.1	1.1	0.2	0.0	0.0	0.0				5.2	5.3
S	2.1	2.5	1.6	0.3	0.0	0.0					6.0	5.4
SSW	0.9	1.1	0.6	0.1	0.0	0.0					2.8	5.3
SW	1.0	1.1	0.7	0.1	0.0	0.0					3.0	5.1
WSW	1.0	1.5	1.4	0.4	0.0	0.0					4.3	6.3
W	3.1	6.1	6.5	0.9	0.1	0.0	0.0				16.8	6.3
WNW	2.1	3.7	3.4	0.3	0.0	0.0					9.4	5.8
NW	1.9	2.1	1.0	0.1	0.0	0.0					5.0	4.7
NNW	0.9	0.8	0.2	0.0	0.0	0.0					1.9	3.9
CALM											9.9	
9.9	29.4	35.7	20.4	3.7	0.7	0.0	0.0				100.0	4.8

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

236,944

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Estero, California

January 1931 thru December 1936

ALL

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

35° 24', 120° 52', 30'

LOCATION

ALL

POST (L.R.T.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	0.8	1.2	0.1								2.2	6.1
NNE	0.0	0.0									0.0	5.0
NE	10.1	11.3	1.6	0.0							23.0	6.1
ENE	0.0	0.0									0.0	9.0
E	3.9	2.8	0.2								6.8	4.2
ESE	0.0	0.0									0.0	5.5
SE	3.1	2.8	0.5								6.3	5.5
SSE	0.0	0.0	0.0								0.0	8.0
S	1.6	2.0	0.3	0.0							3.9	5.3
SSW												
SW	3.5	3.9	0.2	0.0							7.7	4.6
WSW												
W	9.9	6.2	0.7	0.0							16.9	4.5
WNW	0.0	0.0									0.0	8.0
NW	4.0	6.8	2.0	0.0							12.8	8.0
NNW		0.0									0.0	10.0
CALM												
20.2	37.0	37.0	5.7	0.1							20.2	4.6
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

12,722

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Eureka CA, Humboldt Bay P.P. Jan 1966 thru Dec 1967

ALL
MONTH

STATION NAME

YEAR

ALL WEATHER

CLASS

ALL
HOURS (L.R.T.)

40°48', 120°12'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-12	15-18	19-24	> 25					%	MEAN WIND SPEED
N	0.7	3.7	6.1	4.7	2.2	1.1					18.4	12.7
NNE	0.6	2.1	2.7	1.2	0.3	0.1					6.9	9.6
NE	0.4	1.6	1.2	0.2	0.0						3.5	7.3
ENE	0.4	1.3	0.5	0.1	0.0						2.3	6.2
E	0.6	1.4	0.5	0.0							2.5	5.5
ESE	0.3	1.3	0.7	0.1	0.0	0.0					2.4	6.9
SE	0.2	1.0	0.8	0.9	0.5	0.5					3.9	13.3
SSE	0.3	1.0	1.0	2.1	1.4	0.9					6.7	15.7
S	0.5	1.5	2.1	1.9	0.6	0.2					6.7	11.3
SSW	0.6	1.9	2.3	1.0	0.4	0.2					6.5	10.1
SW	0.7	2.5	2.1	0.9	0.5	0.4					7.2	10.2
WSW	1.0	2.0	1.3	0.5	0.2	0.1					5.1	10.3
W	1.0	2.0	0.9	0.2	0.1	0.0					4.2	6.1
WNW	0.9	1.5	0.7	0.1	0.1	0.0					3.1	6.2
NW	0.9	2.2	1.5	0.3	0.1	0.1					5.0	7.3
NNW	0.7	2.9	3.5	1.8	0.5	0.1					9.6	9.9
CALM											5.9	9.6
5.9	9.9	30.0	27.8	15.9	6.9	3.8					100.0	

Data from Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS 17,351

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Station Eureka, CA WBO July 1939 thru December 1942 ALL
DATE RANGE CLASS YEAR MONTHS (L.E.T.)

ALL WEATHER ALL
CLASS

40° 48', 124° 10', 13' LOCATION
LOCATION

88' HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	1.3	10.4	1.7								13.4	9.5
NNE	0.7	2.3	0.1								3.0	6.7
NE	1.3	2.4									3.7	4.8
ENE	0.6	1.2	0.0								1.8	4.6
E	1.6	1.6									3.2	3.9
ESE	1.3	2.8									4.1	4.9
SE	2.9	6.7	0.3								9.9	6.0
SSE	0.8	5.8	1.0								7.6	9.7
S	1.3	4.6	0.4								6.3	7.8
SSW	0.7	3.9	0.4	0.0							5.0	8.1
SW	1.4	6.2	0.4								8.0	7.6
WSW	0.8	2.2	0.0								3.0	5.7
W	1.0	2.9									3.9	5.8
WNW	0.7	3.5	0.0								4.2	6.2
NW	1.1	7.7	0.2								9.0	7.2
NNW	0.7	7.9	0.9								9.3	9.4
CAUA												
4.5	18.0	72.1	5.5	0.0							100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 63,771

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Fairview Hospital

1972-1973

STAMP

ALL

ALL WEATHER

CLASS

33° 42' 117° 55' 10

LOCATION

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

16,656

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

KST
066W
STATION NAME
Pontana - Kaiser
1/1/56 - 12/31/72
YEAR

ALL WEATHER
CLASS
34° 05', 117° 30', 1090'
LOCATION
80'
HEIGHT ABOVE GROUND

ALL
MOON
0000 (L.R.T.)

SPEED MPH	DIR.																		%	MEAN WIND SPEED
N																			3.7	16.7
NNE																			8.0	14.8
NE																			11.7	13.3
ENE																			8.0	9.7
E																			2.0	11.5
ESE																			0.8	11.3
SE																			0.2	10.9
SSE																			0.3	10.7
S																			0.9	11.6
SSW																			3.8	12.7
SW																			7.3	15.1
WSW																			18.1	14.2
W																			17.3	14.8
WNW																			8.7	9.2
NW																			5.3	8.5
NNW																			4.0	7.7
CALM																				
																			100.1	12.8

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

139,747

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Fort Bragg, California - Casper Field January 1943 thru May 1945

STATION NAME Fort Bragg, California - Casper Field YEARS 1943 thru May 1945 ALL POSTS

ALL WEATHER ALL BEARS (L.E.T.)

CLASS 39° 28', 123° 45', 755'

LOCATION

21'

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	<47						%	MEAN WIND SPEED
N	1.0	4.0	1.0	0.0								6.0	7.9
NNE	1.0	1.9	0.1									3.0	5.4
NE	1.2	1.6	0.0									2.8	4.7
ENE	0.5	2.3	0.4	0.0								3.3	7.5
E	1.2	4.1	0.9	0.0	0.0							6.1	7.7
ESE	1.7	6.0	1.2	0.1	0.0							9.0	7.4
SE	1.8	5.7	0.9	0.0								8.4	6.8
SSE	0.7	2.1	0.2	0.0								3.1	6.3
S	1.1	2.8	0.2	0.0	0.0							4.1	6.3
SSW	0.6	1.9	0.3	0.1								2.9	7.3
SW	1.3	4.1	0.2	0.2								5.6	6.2
WSW	0.7	2.6	0.1									3.4	5.9
W	1.5	4.4	0.2									6.1	5.8
WNW	1.1	4.2	0.8	0.0								6.1	7.5
NW	1.7	9.0	4.7	0.1								15.5	10.1
NNW	1.2	7.2	3.9	0.1								12.5	10.3
CALM												2.1	7.6
2.1	18.1	63.9	15.2	0.6	0.1							100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

17,271

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93217 STATION FORT ORD CALIF/FRITZSCHE AAF 60-70 YEAR ALL

ALL
NORTH
ROSE (U.S.T.)

ALL WEATHER

CLASS

36°41', 121°46', E1. 144 ft.

LOCATION

15'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.3	.3	.1	.0	.0							.8	4.7
NNE	.4	.4	.1	.0	.0							.9	4.7
NE	.6	.8	.4	.1								1.8	4.9
ENE	.8	1.1	.5	.1								2.4	4.9
E *	1.6	2.6	1.5	.2	.0							5.9	8.3
ESE	1.5	2.2	1.4	.4	.0	.0						5.5	5.8
SE	.6	.7	.5	.3	.1	.0	.0					2.2	6.8
SSE	.3	.2	.1	.0	.0							.7	4.3
S	.5	.4	.2	.0	.0							1.1	4.6
SSW	.9	1.1	.5	.2	.0	.0						2.7	5.2
SW	1.3	2.8	2.8	1.5	.1	.0						8.4	7.2
WSW	1.2	3.2	4.5	2.3	.1							11.3	7.8
W	1.8	5.4	9.0	4.9	.1							21.1	8.2
WNW	1.8	2.9	4.3	2.4	.2	.0	.0					10.8	8.2
NW	.5	1.0	.9	.3	.0	.0						2.7	6.7
NNW	.3	.4	.2	.1	.0							.9	5.4
CALM												20.7	
20.7	13.5	25.4	27.0	12.7	.6	.1	.0					100.0	5.6

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

86543

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93193

STATION

FRESNO CALIFORNIA/AIR TERMINAL

STATION NAME

41-45, 49-68

YEAR

ALL

MONTH

ALL WEATHER

CLASS

36°46', 119°43', 327'

ALL

HOUSE (L.R.T.)

LOCATION

20'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.9	1.6	.4	.1	.0	.0						4.0	4.2
NNE	.9	.6	.1	.0	.0	.0						1.6	3.9
NE	2.1	1.1	.2	.0	.0							3.5	3.7
ENE	1.5	1.4	.2	.0	.0							3.1	4.0
E	2.6	2.5	.5	.1	.0							5.7	4.2
ESE	1.5	2.3	.8	.2	.0	.0						4.7	5.0
SE	2.2	2.8	1.7	.5	.0	.0	.0	.0				7.2	5.6
SSE	1.2	1.7	1.0	.2	.0	.0	.0	.0				4.2	5.5
S	1.6	1.8	.7	.1	.0	.0	.0	.0				4.3	4.9
SSW	1.0	1.0	.3	.0	.0	.0						2.5	4.5
SW	1.7	1.4	.4	.0	.0	.0	.0					3.5	4.2
WSW	.9	1.1	.4	.0	.0							2.5	4.7
W	1.7	2.4	1.6	.3	.0	.0	.0					6.1	5.6
WNW	1.7	4.5	6.0	2.1	.2	.0	.0					14.5	7.5
NW	3.2	6.8	8.0	3.2	.3	.0	.0					21.6	7.3
NNW	1.7	2.4	1.4	.3	.0	.0	.0					5.9	5.6
CAUA												5.1	
5.1	27.4	35.6	23.8	7.3	.6	.1	.0	.0				100.0	5.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

181408

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Fresno - Chandler Field YEAR 1930 thru 1938 ALL MONTHS ALL

ALL WEATHER CLASS 36° 44', 119° 49', 280' MONTH (L.S.T.) ALL

LOCATION 36° 44', 119° 49', 280'

HEIGHT ABOVE GROUND _____

SPEED MPH DIR.	4-15	16-31	32-47								%	MEAN WIND SPEED
N	5.1	0.1									5.2	
NNE	0.3	0									0.3	
NE	1.3	0									1.3	
ENE	0.3										0.3	
E	3.1	0									3.1	
ESE	1.7	0									1.7	
SE	3.9	0.1	0								4.0	
SSE	1.3	0									1.3	
S	1.8	0									1.8	
SSW	0.5										0.5	
SW	1.3	0									1.3	
WSW	0.7	0									0.7	
W	5.5	0.1									5.6	
WNW	8.5	0.4	0								8.9	
NW	23.4	1.2	0								24.6	
NNW	3.5	0.2									3.7	
CALC											35.7	
35.7	62.2	2.0	0.0								99.9	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

78,369

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23131

GEORGE AFB CALIF/VICTORVILLE

42-46, 48, 50-72

STATION

STATION NAME

YEAR

ALL
NORTH

ALL WEATHER

CLASS

34°35', 117°23', 2849'

LOCATION

13'

HEIGHT ABOVE GROUND

ALL
BOARD (L.R.T.)

SPEED (KNOTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.8	1.4	1.0	.3	.0	.0	.0	.0	.0			3.5	6.3
NNE	.5	1.1	1.0	.4	.1	.0	.0	.0				3.0	7.2
NE	.5	.7	.7	.4	.0	.0						2.2	7.3
ENE	.2	.4	.3	.1	.0	.0		.0				1.0	6.8
E	.4	.7	.6	.2	.0	.0	.0	.0				1.9	6.6
ESE	.4	1.0	1.1	.1	.0	.0	.0	.0				2.7	6.4
SE	1.3	3.9	3.4	.3	.1	.0	.0	.0	.0			9.0	6.4
SSE	1.3	4.0	2.3	1.0	.5	.2	.0	.0	.0			9.3	7.6
S	2.1	5.2	3.5	3.1	1.5	.5	.0	.0	.0			16.0	9.0
SSW	1.3	2.9	2.6	2.0	.5	.1	.0	.0				9.3	8.4
SW	1.3	2.6	2.5	1.0	.2	.1	.0	.0	.0			7.6	7.3
WSW	.7	1.5	1.8	1.1	.5	.2	.1	.0				5.9	9.3
W	.9	1.8	2.8	2.9	1.4	.5	.1	.0				10.5	11.3
WNW	.4	.8	1.0	.5	.2	.0	.0	.0	.0			3.9	10.5
NW	.5	.7	.5	.2	.1	.0	.0	.0				2.1	6.9
NNW	.4	.6	.4	.1	.0	.0	.0					1.6	6.1
CALM												10.4	
10.4	12.9	29.1	25.5	14.3	5.5	1.9	.3	.0	.0			100.0	7.4

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

232810

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NAME Glendale, CA AAF DATE June 1943 thru Dec 1945 ALL NORTH

ALL WEATHER CLASS 34° 09', 118° 18', 463' MOVS (L.R.V.)

LOCATION 34° 09', 118° 18', 463'

HEIGHT ABOVE GROUND

SPEED MPH dir	1-3	4-12	13-24	25-31	32-46	≥ 47						%	MEAN WIND SPEED
N	0.4	0.8	0.1									1.3	5.5
NNE	0.2	0.2	0.1	0.0	0.0							0.6	7.3
NE	0.4	0.7	0.1	0.0								1.3	6.4
ENE	0.3	0.9	0.1	0.0								1.3	6.1
E	1.0	3.8	0.2	0.0	0.0							5.0	6.2
ESE	0.9	8.4	0.5									9.8	7.4
SE	3.1	14.7	0.5									18.3	6.5
SSE	1.5	6.9	0.1									8.6	6.0
S	1.8	4.0	0.0									5.8	5.0
SSW	0.7	1.7	0.0									2.4	5.4
SW	1.2	2.5	0.1									3.8	5.0
WSW	0.6	1.3	0.1									2.1	5.4
W	2.0	4.3	0.1	0.0								6.4	5.1
WNW	1.5	4.3	0.2	0.0								6.0	5.7
NW	2.7	6.6	0.3	0.0	0.0							9.5	5.4
NNW	0.6	1.5	0.1									2.0	5.4
CALM													
15.6	19.0	62.7	2.6	0.1	0.0							15.6	5.0
												100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 22,379

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23211

HAMILTON AFB CALIF/SAN RAFAEL

39-70

ALL
MONTH

STATION

STATION NAME

YEAR

ALL WEATHER
CLASS

ALL
MOUSE (L.B.T.)

38°04', 122°31', 14'

LOCATION

33'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.9	1.1	.8	.3	.1	.0	.0	.0	.0			4.3	5.3
NNE	.4	.4	.2	.1	.0	.0	.0	.0	.0			1.2	6.2
NE	.6	.4	.3	.1	.0	.0	.0	.0	.0			1.4	5.3
ENE	.3	.3	.3	.1	.0							1.0	5.8
E	1.3	1.5	1.4	.5	.1	.0						4.8	6.3
ESE	.8	1.4	1.3	.4	.0	.0	.0					3.9	6.5
SE	1.5	2.2	3.7	1.3	.1	.0	.0	.0				8.8	7.4
SSE	.4	.8	1.4	.8	.1	.0	.0					3.5	8.4
S	1.1	1.0	1.1	.6	.1	.0	.0	.0	.0			4.1	7.1
SSW	.7	.9	1.0	.6	.1	.0	.0	.0	.0	.0		3.3	7.8
SW	1.2	1.2	1.4	.5	.1	.0	.0	.0	.0			4.4	6.6
WSW	.4	.6	.7	.2	.0	.0	.0	.0				2.0	7.1
W	1.6	1.0	1.5	.7	.1	.0	.0	.0				4.9	6.5
WNW	.6	1.0	2.0	1.2	.2	.0	.0	.0				4.9	8.7
NW	2.1	2.3	4.0	1.8	.2	.0	.0					10.4	7.5
NNW	1.5	1.5	1.8	.8	.1	.0	.0					5.6	6.8
CAVA												31.6	
31.6	16.4	17.6	23.0	9.8	1.3	.3	.0	.0	.0	.0		100.0	4.8

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

278159

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

DANA 120W

Hawthorne, Dana JHS

1970 - 1974

ALL

WAYNE

STATION NAME

1972

ALL WEATHER

CLASS

135th Street - Aviation Blvd.

LOCATION

301

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS 32 544

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION High Point Site YEAR 1964-1970 ALL NORTH

CLASS ALL WEATHER ALL

LOCATION 35°57', 121°14', 1857' HOURS (L.R.T.)

HEIGHT ABOVE GROUND 10'

SPEED	1-3	4-7	8-12	13-18	19-24	25-31	> 31	%	MEAN WIND SPEED
DIR.									
N								5.57	
NNE								4.55	
NE								6.56	
ENE								9.37	
E								5.38	
ESE								5.01	
SE								6.89	
SSE								6.23	
S								4.29	
SSW								3.03	
SW								2.29	
WSW								3.82	
W								6.49	
WNW								5.55	
NW								3.01	
NNW								4.70	
CALM								17.27	
17.27	42.22	23.78	10.59	4.12	1.26	0.53	0.23	100.00	

DATA FROM Hunter Leggett Military Reservation

TOTAL NUMBER OF OBSERVATIONS 54,461

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

HOL
027M

STATION

STATION NAME

1/1/55 - 12/31/74

YEAR

ALL
POINTS

ALL WEATHER

CLASS

34°06', 118°20,250', 1007 Vine Street

LOCATION

40'

HEIGHT ABOVE GROUND

ALL
POINTS (L.R.T.)

SPEED MILES PER HOUR	DIRE.																		%	MEAN WIND SPEED
N																			8.0	3.4
NNE																			1.2	4.2
NE																			12.0	3.9
ENE																			0.8	5.1
E																			8.6	3.3
ESE																			0.7	4.2
SE																			10.2	3.4
SSE																			0.6	4.2
S																			15.9	3.1
SSW																			1.5	5.1
SW																			30.6	4.8
WSW																			0.8	5.1
W																			2.7	3.4
WNW																			0.1	4.6
NW																			5.8	6.3
NNW																			0.4	5.5
CALC																			99.7	4.1

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

159,529

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Station NAME Hollister ALL WEATHER July 1943 thru February 1945 ALL MONTHS

CLASS 36° 53', 121° 24', 247° ALL MONTHS (L.A.T.)

LOCATION _____

HEIGHT ABOVE GROUND _____

SPEED MPH Dir.	1-3	4-10	11-21	22-27	28-40						%	MEAN WIND SPEED
N	4.5	2.2	0.3		0.1						7.2	4.2
NNE	0.1	0.1									0.2	4.3
NE	1.6	0.2	0.1								1.9	3.0
ENE	0.1	0.1									0.1	6.5
E	9.7	2.0	0.4								12.1	3.0
ESE	0.2	0.3	0.3								0.7	7.3
SE	2.7	1.2	0.3								4.2	4.3
SSE	0.1	0.1									0.2	3.2
S	4.0	1.3	0.4								5.7	3.8
SSW	0.2	0.3									0.5	4.4
SW	2.5	4.4	9.0	0.4	0.1						16.4	12.1
WSW	0.5	1.9	2.6	0.1							5.1	11.2
W	12.0	12.6	8.0	0.3							33.1	7.1
WNW	1.0	3	0.4								2.7	6.2
NW	3.2	2.5	0.6								6.3	4.7
NNW	0.1	0.9									0.2	4.3
CALM											3.5	6.6
3.5	42.6	30.4	22.5	0.8	0.2						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801
TOTAL NUMBER OF OBSERVATIONS 1,827

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Holtsville

1943-1945

ALL

BY APPOINTMENT

ALL WEATHER

CLASS

32°50', 115°16', 56'

LOCATION

HEIGHT ABOVE GROUND

[illegible]

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Hyperion

STATION NAME

1957 - 1960

ALL

Page 79

ALL WEATHER

CLASS

33°53', 118°27', 10', 12000 Vista Del Mar

LOCATION

201

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

29.749

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93115 STATION IMPERIAL BCH, CAL/REAM FLD NWSE 45-48, 52-70 YEAR ALL MONTH

ALL WEATHER CLASS 32°34', 117°07', 23' LOCATION 15' HEIGHT ABOVE GROUND

ALL MOUSE (L.R.T.)

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	1.1	1.0	.4	.1	.0							2.6	4.4
NNE	.6	.5	.1	.0	.0							1.2	3.9
NE	1.2	1.1	.3	.0	.0	.0	.0					2.6	4.1
ENE	1.0	1.4	.4	.0	.0	.0						2.8	4.6
E	2.8	5.3	2.7	.4	.1	.0	.0	.0				11.3	5.5
ESE	.9	1.2	.6	.2	.1	.0	.0	.0				3.0	5.9
SE	1.0	1.3	.9	.2	.0	.0	.0					3.5	5.9
SSE	.5	.4	.2	.1	.0	.0	.0	.0				1.2	5.9
S	1.3	1.4	1.1	.7	.2	.1	.0	.0				4.8	6.9
SSW	.9	1.5	1.5	.8	.1	.0	.0	.0				4.8	7.4
SW	1.2	2.1	2.3	.8	.1	.0	.0					6.6	6.8
WSW	1.0	2.5	2.2	.5	.0	.0						6.3	6.4
W	2.5	6.3	7.3	1.7	.1	.0						17.9	6.8
WNW	1.5	3.6	4.5	1.7	.1	.0						11.3	7.3
NW	1.8	3.3	2.9	1.0	.1	.0	.0					9.1	6.5
NNW	.7	1.0	.7	.2	.0	.0		.0				2.6	5.8
CALM												8.2	
8.2	20.1	33.9	28.1	8.6	.9	.2	.0	.0				100.0	5.8

167334

TOTAL NUMBER OF OBSERVATIONS

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Indio, CA (Coachella CAA)	Jan 1937 thru Aug 1940	ALL
STATION NAME	TL189	NORTH

STATION NAME	ALL WEATHER	CLASS	CLASS

LOCATION
33°41', 116°10', -62'

HEIGHT ABOVE GROUND

SPEED MPH	4-15	16-31	32-47	>47					%	MEAN WIND SPEED
N	6.4	0.5	0.0						6.9	
NNE	0.5	0.1	0.0						0.6	
NE	1.1	0.0							1.1	
ENE	0.2	0.0							0.2	
E S	0.9	0.0							1.0	
ESE	1.1	0.0							1.1	
SE	5.7	0.1							5.8	
SSE	3.3	0.1							3.3	
S	3.7	0.0							3.7	
SSW	1.4	0.0							1.4	
SW	2.6	0.0							2.6	
WSW	0.8	0.1							0.9	
W	4.5	0.1							4.6	
WNW	4.9	0.2							5.1	
NW	26.8	5.1	0.0						31.9	
NNW	5.4	3.1	0.0						8.5	
CALA	X	X	X	X	X	X	X	X	21.1	
21.1	69.3	9.4	0.1						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 27,948

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Jenner, CA AAB June 1943 thru May 1945 ALL

STATION NAME

YEAR

ALL

BOAT

ALL WEATHER

CLASS

38°27', 123°07', 236

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47				%	MEAN WIND SPEED
N	0.5	0.3	0.1	0.0	0.0	0.0				1.0	7.2
NNE	0.6	1.2	0.8	0.1	0.1	0.0				2.8	11.1
NE	0.8	2.3	0.7	0.0	0.0					3.9	8.3
ENE	1.0	7.8	3.1	0.4	0.1					12.4	10.4
E	0.7	5.6	2.2	0.2						8.8	10.4
ESE	0.7	7.1	3.3	0.2	0.0					11.3	10.5
SE	0.8	2.2	0.4	0.0	0.0					3.5	7.3
SSE	1.3	3.0	1.1	0.3	0.1					5.9	9.3
S	0.9	2.8	0.5	0.1	0.0					4.3	7.4
SSW	1.0	4.5	0.7	0.1	0.0					6.3	7.4
SW	0.8	4.2	0.6	0.0	0.0					5.7	7.7
WSW	0.9	7.5	2.4	0.4	0.3					11.4	10.6
W	0.9	3.8	1.5	0.3	0.4					6.9	11.7
WNW	0.3	3.6	3.0	0.8	0.7					8.5	15.8
NW	0.4	1.2	1.4	0.6	0.7	0.0				4.2	18.5
NNW	0.4	1.0	0.5	0.1	0.0	0.0				2.0	10.0
CALM										1.1	
1.1	12.1	58.1	22.4	3.7	2.5	0.0				100.0	10.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

13,569

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Jolon-Airfield site YEAR 1964-1970 ALL MONTH ALL MONTHS (L.R.T.)

ALL WEATHER CLASS LOCATION 36°00', 121°14', 1,040'

HEIGHT ABOVE GROUND 10'

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-31	>31	%	MEAN WIND SPEED
N								7.12	
NNE								3.69	
NE								4.48	
ENE								5.02	
E								3.28	
ESE								4.76	
SE								8.85	
SSE								8.30	
S								5.31	
SSW								3.88	
SW								4.58	
WSW								3.22	
W								1.33	
WNW								5.43	
NW								12.79	
NNW								14.12	
CALM								3.83	
3.83	71.12	20.57	4.23	0.23	0.01			99.99	

DATA from Hunter Leggett Military Reservation

TOTAL NUMBER OF OBSERVATIONS 60,306

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

94236

KLAMATH FALLS ORE/KINGSLEY FLD

48-54, 59-70

ALL

STATION

STATION NAME

YEAR

ALL

MONTH (L.S.T.)

ALL WEATHER

CLASS

42°09', 121°44', 4091'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	2.0	2.2	1.7	.5	.1	.0	.0					6.4	5.8
NNE	.8	.6	.3	.2	.0	.0	.0					1.9	5.7
NE	.5	.3	.2	.1	.0	.0						1.2	5.1
ENE	.5	.3	.2	.1	.0							1.1	4.8
E	1.0	.5	.2	.1	.0	.0	.0					1.8	4.4
ESE	1.0	.6	.2	.1	.0	.0						1.9	4.3
SE	1.0	.8	.7	.4	.1	.0	.0					3.0	6.6
SSE	1.1	1.4	1.8	1.2	.5	.3	.1	.0	.0			6.5	9.5
S	1.0	1.1	1.2	1.1	.6	.3	.1	.0	.0	.0		5.4	10.0
SSW	.5	.7	.5	.4	.1	.1	.0	.0	.0			2.3	7.9
SW	.6	.7	.7	.3	.1	.0	.0	.0	.0			2.5	7.1
WSW	.7	1.1	1.2	.7	.2	.0	.0	.0				3.9	8.2
W	1.8	2.5	2.8	1.5	.3	.1	.0	.0		.0		9.0	7.7
WNW	1.0	1.5	1.4	.7	.1	.0	.0	.0	.0			4.7	7.2
NW	1.2	1.6	1.7	.6	.1	.0	.0					5.1	6.8
NNW	1.4	2.5	3.4	1.5	.2	.0	.0					9.0	7.6
CALM												34.4	
34.4	16.2	18.3	18.1	9.4	2.4	.9	.2	.0	.0	.0		100.0	4.8

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

154817

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

La Canada FS

STATION NAME

1965-73

NOTES

ALL

ALL WEATHER

CLASS

32°12'. 118°11'. 1200. 1729 Foothill Blvd.

LOCATION

351

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

74,990

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

LAH
099W
STATION

La Habra

STATION NAME

1960 - 1974

YEAR

ALL

WINDS

ALL WEATHER

CLASS

34°10', 117°57', 300', 621 W. Ocean Avenue

LOCATION

25'

HEIGHT ABOVE GROUND

SPEED MPH Dir.																				%	MEAN WIND SPEED
N																				3.5	1.6
NNE																				1.5	2.6
NE																				9.6	1.9
ENE																				14.7	2.3
E																				16.5	1.8
ESE																				2.8	2.1
SE																				5.7	2.1
SSE																				1.9	3.2
S																				9.4	3.6
SSW																				5.7	5.2
SW																				17.2	5.1
WSW																				7.3	5.6
W																				11.2	4.1
WNW																				0.9	3.8
NW																				1.7	1.6
NNW																				0.3	2.1
CAUA																				99.9	3.4

Data from South Coast Air Quality Management District

9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

119,089

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

La Vern Airport

11/58 - 05/75

PROVINCIAL

ALL

附錄

ALL WEATHER

CLASS

34° 05', 117° 47', 1000'

LOCATION

351

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

137.147

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Station Laguna Beach, CA Jan 1934 thru Dec 1938

STATION NAME

ALL
80572

ALL WEATHER

CLASS

ALL
80572

33°32', 117°46', 200'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	2.0	0.0								2.0	
NNE	1.0	0.0								1.0	
NE	4.7	0.0								4.7	
NNE	1.1	0.0								1.1	
E	2.4	0.0								2.4	
ESE	1.9	0.1								2.0	
SE	6.7	0.2								6.9	
SSE	2.8	0.1								2.9	
S	3.7	0.0								3.7	
SSW	1.1	0.0								1.1	
SW	5.2	0.0								5.2	
WSW	1.4	0.0								1.4	
W	6.5	0.0								6.5	
WNW	4.0	0.0								4.1	
NW	12.8	0.0	0.0							12.9	
NNW	2.1	0.1								2.1	
CALM											
40.0	59.5	0.5	0.0							40.0	
										100.00	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 43,741

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NAME
Lakeview, Oregon

January 1959 through May 1962

ALL

MONTH

ALL WEATHER

YEAR

ALL

MOUSE (L.R.T.)

CLASS
42°11', 120°21', 4,780'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH Dir.	1-3	4-15	16-30	31-46	> 46						%	MEAN WIND SPEED
N	0.3	7.0	4.2	0.1							11.6	
NNE	1.0	1.2	0.2	0.0							2.3	
NE	0.4	0.6	0.3								1.3	
ENE	0.5	0.6									1.1	
E *	0.1	0.6	0.0								0.8	
ESE	0.4	0.4									0.9	
SE	0.2	3.7	0.5								4.5	
SSE	1.1	4.8	0.9								6.7	
S	0.4	10.8	4.1	0.1							15.3	
SSW	1.2	4.0	0.7	0.0							6.0	
SW	0.2	3.2	1.3	0.0							4.7	
WSW	0.5	1.2	0.3								2.0	
W	0.0	3.5	1.3	0.0							4.8	
WNW	0.4	0.7	0.1								1.2	
NW	0.1	1.8	0.1								2.1	
NNW	0.8	2.7	0.5								4.0	
CALM											30.7	
30.7	7.6	47.0	14.4	0.2							100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

12,419

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

LAN
090W
STATION

Lancaster

1957 - 1964

STATION NAME

YEAR

ALL
MONTH

ALL WEATHER

CLASS

34°35', 118°08', 2660', 2500 W. Avenue 1

LOCATION

90'

HEIGHT ABOVE GROUND

ALL
MONTH (L.A.T.)

SPEED MPH DIR.																					%	MEAN WIND SPEED
N																					1.9	4.2
NNE																					2.4	4.1
NE																					5.1	4.5
ENE																					5.2	5.0
E S																					4.7	3.6
ESE																					2.7	2.8
SE																					3.0	2.2
SSE																					2.9	2.1
S																					1.6	2.8
SSW																					3.6	4.2
SW																					11.8	10.5
WSW																					19.9	11.0
W																					19.3	11.0
WNW																					10.0	11.6
NW																					3.8	6.8
NNW																					1.9	4.0
CAUA																						
																					99.8	8.3

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

55,943

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

NOT
WOC L

0747404

STATION NAME

1974 - 1976

TRAN

ALL

WAVES

—

NEW YORK (L.A.T.)

ALL WEATHER

CLASS

34°44', 118 13', 2347, 45547N. Beech Street

LOCATION

351

HEIGHT ABOVE GROUND

SPEED KTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523</
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Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

22.307

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Las Vegas, Nevada

1934 through 1938

ALL

PORTN

ALL WEATHER

ALL

MOVER (L.S.T.)

36°05', 115°10', 1,880'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	5.0	0.7	0.0								5.7	
NNE	2.1	0.9	0.0								3.0	
NE	10.7	1.6	0.0								12.3	
ENE	2.5	0.1	0.0								2.6	
E	4.5	0.1	0.0								4.6	
ESE	1.5	0.1	0.0								1.7	
SE	3.9	0.6	0.0								4.5	
SSE	1.2	0.5	0.0								1.8	
S	6.2	2.4	0.1								8.7	
SSW	2.2	1.4	0.0								3.7	
SW	5.6	2.3	0.1	0.0							8.0	
WSW	0.7	0.1	0.0								0.9	
W	1.9	0.1	0.1								2.0	
WNW	0.8	0.3	0.0								1.1	
NW	2.9	0.7	0.1								3.7	
NNW	0.5	0.1	0.0								0.7	
CALM												
35.2	52.2	12.0	0.5	0.0							35.2	
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

32,928

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23110

STATION

LEMOORE, CALIFORNIA NWS

STATION NAME

61-70

YEAR

ALL

MONTH

ALL WEATHER

CLASS

36°20', 119°57', 240'

LOCATION

9'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	3.1	5.6	5.3	1.8	.2	.0						16.0	6.6
NNE	1.3	1.8	1.3	.0	.0							4.7	5.4
NE	.8	.8	.3	.0								1.9	4.5
ENE	.7	.6	.2	.0								1.4	3.9
E	1.3	.9	.2	.0								2.4	3.7
ESE	1.2	.9	.3	.1								2.4	4.0
SE	1.2	1.1	.5	.1	.0							3.0	4.7
SSE	1.3	1.2	.7	.2	.0	.0						3.4	5.2
S	1.6	1.2	.6	.3	.0	.0	.0					3.7	5.1
SSW	.8	.4	.2	.1	.0	.0						1.6	4.6
SW	.9	.4	.2	.1	.0	.0						1.5	4.2
WSW	1.5	.7	.2	.1	.0	.0						2.6	4.1
W	3.3	1.8	.2	.1	.0	.0						5.5	3.4
WNW	2.3	2.6	.5	.1	.0							5.5	4.0
NW	2.6	5.0	2.6	.6	.1	.0	.0					10.9	5.6
NNW	2.8	6.9	6.2	2.5	.3	.1	.0					18.8	7.1
CALC												14.8	
14.8	26.8	31.9	19.5	6.2	.6	.1	.0					100.0	4.7

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

95872

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Livermore, CA ALL WEATHER January 1934 thru December 1938 ALL
DATE

CLASS ALL
LOCATION 37°42', 121°48', 453'
HEIGHT ABOVE GROUND

MEANS (U.S.S.)

SPEED MPH DIR.	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	1.0	0.2	0.0								1.2	
NNE	0.3	0.2	0.0								0.5	
NE	9.2	1.2	0.0								10.4	
ENE	1.1	0.1									1.2	
E	5.1	0.1									5.2	
ESE	0.4	0.0									0.4	
SE	1.9	0.0									1.9	
SSE	0.2	0.0									0.2	
S	1.8	0.1									1.9	
SSW	1.1	0.3	0.0								1.5	
SW	10.4	2.0	0.0	0.0							12.4	
WSW	3.4	0.6									4.0	
W	17.8	4.1	0.0								21.9	
WNW	3.6	1.6									5.2	
NW	6.8	2.0									8.7	
NNW	0.2	0.1	0.0								0.3	
CALA												
23.1	64.2	12.6	0.1	0.0							23.1	
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43,692

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Livermore LLL

April 1971 through March 1972

ALL

MONTHS

ALL

MONTHS (L.E.T.)

YEAR

CLASS

LOCATION

HEIGHT ABOVE GROUND

STATION NAME

ALL WEATHER

37° 41, 121° 46', 490

0.2-1.6

1.6-3

3-5

5-7

7-11

11-16

16-

%

MEAN WIND SPEED

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

1.3

0.3

4.4

100

4.2

DATA FROM LAWRENCE LIVERMORE LABORATORY.

TOTAL NUMBER OF OBSERVATIONS

4.4

2.9

82.8

24.1

24.9

9.3

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Livermore 10 SSE, LLL Site 300

STATION NAME

YEAR

ALL WEATHER

CLASS

37° 38', 121° 30', 515'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPS DIR.	0.5- 2.0	2.1- 5.0	5.1- 10	10.1- 15	15.1- 20	20- 25	25- 30	30- 35	35- 40	40- 45	45- 50	50- 55	55- 60	60- 65	65- 70	70- 75	75- 80	80- 85	85- 90	90- 95	95- 100	MEAN WIND SPEED
N	.17	.86	.44	.09	.06	.02																1.64
NNE	.09	.44	.01	.01	0	0																.55
NE	.23	1.04	.03	.01	0	0																1.31
NNE	.47	.59	.01	.01	0	0																1.08
E	.52	.52	.02	0	0	0																1.06
ESE	.35	.42	.16	.04	0	0																.97
SE	.39	.82	.30	.13	0	0																1.64
SSE	.45	.90	.32	.11	0	0																1.78
S	.45	.83	.17	.06	.06	0																1.57
SSW	.29	.85	.34	.11	0	0																1.59
SW	.26	.98	1.03	.37	.02	0																2.46
WSW	.39	2.91	15.25	16.22	1.41	.04																36.22
W	.45	3.08	9.33	2.09	.03	0																14.98
WNW	.67	2.63	2.78	.22	0	0																6.30
NW	.62	4.31	4.40	2.07	.10	.02																11.52
NNW	.69	5.01	5.16	3.36	.72	.18																15.12
CALA																						
	6.49	26.19	39.75	24.90	2.40	.26																99.99

Data from Lawrence Livermore Laboratory

total hours of observations
based on 1/2 hour
averages

7.061

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Livermore, LLL Site 300 WOP October 1972 - September 1973

STATION NAME

YEAR

ALL
SOUTH

ALL WEATHER

CLASS

37°40', 121°33', 1,722'

LOCATION

30'

HEIGHT ABOVE GROUND

SPEED MPH DIR.	0-5	6-8	9-12	13-20	21-26	27-32	33-40	41-52	%	MEAN WIND SPEED
N										
NNE										
N										
ENE										
E										
ESE										
SE										
SSE										
S										
SSW										
SW										
WSW										
W										
WNW										
NW										
NNW										
CALA										
	10.9	12.4	16.8	25.9	15.0	10.6	6.4	1.9	99.9	14.2

DATA FROM University of California

TOTAL NUMBER OF OBSERVATIONS

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23129 STATION NAME LONG BEACH, CALIFORNIA WBAS 49-72 YEARS ALL NORTH
ALL
MOUSE (L.B.T.)

ALL WEATHER CLASS

33049', 118009', 43' LOCATION

20' HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.3	1.9	.4	.1	.0	.0	.0					3.6	4.5
NNE	.5	.7	.2	.0	.0	.0	.0					1.3	4.6
NE	1.0	1.1	.3	.1	.0	.0	.0					2.5	4.6
ENE	.6	1.3	.3	.1	.0	.0	.0					2.3	5.4
E	1.7	2.4	.5	.1	.0	.0	.0					4.7	4.7
ESE	.8	1.7	.4	.1	.0	.0	.0					3.0	4.9
SE	1.5	2.1	.7	.1	.0	.0	.0	.0				4.4	4.9
SSE	.4	1.4	1.1	.2	.0	.0	.0	.0				3.1	6.3
S	.9	3.3	4.2	.8	.0	.0	.0	.0				9.2	7.0
SSW	.3	1.4	2.3	.6	.0	.0	.0	.0				4.6	7.7
SW	.5	1.5	1.4	.3	.0	.0	.0	.0				3.6	6.6
WSW	.2	.8	.7	.3	.0	.0	.0	.0				2.1	7.5
W	.7	2.7	4.1	2.1	.2	.0	.0	.0				9.8	8.3
WNW	.7	3.6	3.4	1.1	.1	.0	.0	.0	.0			8.9	7.2
NW	1.7	4.6	2.7	.8	.1	.0	.0	.0				10.0	6.3
NNW	.8	2.0	.6	.1	.0	.0	.0	.0				3.5	5.4
CALM												23.4	
23.4	13.5	32.3	23.2	6.8	.6	.2	.0	.0	.0			100.0	4.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

163549

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93106

STATION

LOS ALAMITOS, CALIFORNIA NWSE

STATION NAME

49-69

YEAR

ALL

MONTH

ALL WEATHER

CLASS

33°48', 118°03', 26'

LOCATION

12'

HEIGHT ABOVE GROUND

SPEED (KTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	2.3	1.6	.5	.1	.0							4.5	4.0
NNE	1.1	.9	.3	.0	.0							2.4	4.2
NE	2.8	2.1	.9	.1	.0	.0	.0					5.9	4.4
ENE	1.3	1.2	.5	.2	.1	.1	.0	.0				3.5	5.9
E	3.0	2.2	.6	.2	.1	.0	.0					6.1	4.4
ESE	1.2	1.0	.4	.1	.0	.0	.0					2.6	4.3
SE	2.1	1.7	.6	.1	.0	.0	.0	.0				4.5	4.4
SSE	1.0	.9	.4	.1	.0	.0	.0					2.5	5.1
S	2.1	2.3	1.5	.3	.0	.0	.0					6.3	5.4
SSW	1.0	2.3	3.1	.7	.0	.0						7.2	6.9
SW	1.5	3.6	7.0	2.4	.1	.0	.0		.0			14.6	7.8
WSW	.7	1.4	2.1	.8	.1	.0	.0					5.1	7.6
W	1.4	1.7	1.4	.5	.1	.0	.0					5.1	6.5
WNW	.8	1.4	1.4	.4	.0	.0	.0					4.0	6.5
NW	2.3	2.6	1.1	.2	.0	.0	.0					6.3	4.8
NNW	1.1	1.0	.4	.0	.0	.0						2.6	4.4
CAUA												16.8	
16.8	25.8	27.8	22.3	6.4	.7	.2	.0	.0	.0			100.0	4.8

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

171926

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23174
STATION

Los Angeles, CA WBAS

January 1947 thru June 1965

ALL
MONTH

ALL WEATHER

CLASS

33° 56', 118° 23', 121'

LOCATION

20'

HEIGHT ABOVE GROUND

SPEED knts DIR.	1-3	4-10	11-21	22-27	28-40	40					%	MEAN WIND SPEED
N	1.0	1.3	0.3	0.0	0.0						2.7	6.0
NNE	1.0	1.5	0.1	0.0	0.0						2.6	4.9
NE	1.6	2.6	0.1	0.0	0.0						4.2	4.6
ENE	1.8	3.1	0.1	0.0							5.0	4.6
E	2.5	4.2	0.1	0.0							6.8	4.6
ESE	1.8	3.0	0.1								4.9	4.7
SE	1.8	2.5	0.1	0.0							4.5	4.6
SSE	1.0	1.5	0.1	0.0	0.0						2.6	4.9
S	0.9	1.3	0.1	0.0							2.3	4.6
SSW	0.8	1.4	0.2	0.0	0.0						2.4	5.6
SW	1.3	4.1	0.7	0.0							6.1	6.6
WSW	1.6	13.7	4.1	0.0	0.0						19.4	8.2
W	1.8	11.5	4.2	0.1	0.0						17.8	8.3
WNW	1.1	3.1	0.5	0.0	0.0						4.6	6.2
NW	0.9	1.0	0.2	0.0	0.0						2.1	5.0
NNW	0.8	0.9	0.5	0.1	0.0						2.3	7.3
CALA											9.8	5.8
9.8	21.7	56.7	11.5	0.3	0.0						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

153,295

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

CAP

075W

STATION

Los Angeles CAPCD

STATION NAME

8/56 - 12/76

YEAR

ALL

DATA

ALL WEATHER

CLASS

34°03', 118°14', 434 S. San Pedro Street

LOCATION

85'

HEIGHT ABOVE GROUND

ALL

DATA (L.R.T.)

SPEED MPH DIRE.																		%	MEAN WIND SPEED
N																		4.7	3.9
NNE																		4.7	3.6
NE																		14.8	3.9
ENE																		1.6	4.0
E																		6.2	3.7
ESE																		1.7	4.4
SE																		7.9	4.4
SSE																		1.6	4.6
S																		9.3	4.5
SSW																		5.2	6.6
SW																		26.3	6.9
WSW																		3.2	7.7
W																		8.1	6.5
WNW																		0.3	5.9
NW																		3.5	6.0
NNW																		0.8	6.7
CALA																			
																		99.9	5.3

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

174,169

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Los Angeles C.C.

1963 - 1974

ALL

ALL WEATHER
CLASS

34°05', 118°18', 500', 855 N. Vermont

ALL

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

96,105

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

PLX
019W
STATION

Los Angeles NWS
STATION NAME

8/1/50 - 6/30/64
YEAR

ALL
MONTH

ALL WEATHER

CLASS

34° 00', 118° 12', 290 Federal Bldg. 90012
LOCATION

40'

HEIGHT ABOVE GROUND

ALL
DOWNS (U.S.T.)

SPEED MPH	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	%	MEAN WIND SPEED
N											7.4	6.2
NNE												
NE											8.4	6.6
ENE												
E											11.5	5.6
ESE												
SE											12.3	5.2
SSE												
S											13.1	4.8
SSW												
SW											5.1	6.3
WSW												
W											34.4	6.7
WNW												
NW											7.7	6.2
NNW												
CAUA											99.9	6.0

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

127,077

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Los Angeles No. 76

1971 - 1974

TEAM

ALL

100-474

ALL WEATHER

CLASS

33°55', 118°18', 50', 11408 La Cienega Blvd.

LOCATION

30'

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

30,240

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

NOR
026W
STATION

Los Angeles - Normandie

1/1/55 - 12/31/67

ALL
MONTHS

ALL WEATHER

CLASS

34° 03', 118° 18', 100 3520 S. Normandie Avenue

LOCATION

40'

HEIGHT ABOVE GROUND

ALL
DAYS (L.A.T.)

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	56	%	MEAN WIND SPEED
N												10.3	4.4
NNE												1.3	4.1
NE												8.8	4.2
ENE												0.7	4.7
E												8.5	4.7
ESE												0.8	4.3
SE												6.4	4.4
SSE												0.3	4.0
S												4.9	4.1
SSW												0.6	4.6
SW												16.3	6.7
WSW												2.0	6.9
W												30.0	7.3
WNW												0.9	5.5
NW												7.8	5.8
NNW												0.4	5.8
CALM												100.0	5.8

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

95,824

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Los Angeles - Pico
STATION NAME

~~10/1/55-12/31/71~~

ALL

**ALL WEATHER
CLASS**

WEATHER CLASS

34° 03', 118° 22', 100, 5769 West Pico Blvd.

407

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

	TOTAL NUMBER OF OBSERVATIONS	142,099
1		
2		
3		
4		
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99		
100		

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SOP

068W
STATION

Los Angeles SPRR
STATION NAME

2/27/56-9/9/61

YEAR

ALL
DATE

ALL WEATHER

CLASS

340 06', 118° 14', 1215 San Fernando Rd.

LOCATION

25'

HEIGHT ABOVE GROUND

ALL
DIRECTION (L.S.T.)

SPEED (MPH) DIRE.																		%	MEAN WIND SPEED
N																		1.3	2.4
NNE																		1.6	2.5
NE																		1.0	1.9
ENE																		1.0	2.6
E S																		1.9	2.9
ESE																		8.8	4.6
SE																		6.1	4.3
SSE																		12.2	4.5
S																		8.3	3.8
SSW																		17.8	5.1
SW																		15.5	5.1
WSW																		5.1	5.2
W																		3.0	3.5
WNW																		4.1	3.8
NW																		7.7	2.8
NNW																		4.4	3.0
CALL																		99.8	4.3

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

16,884

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

UCLA
028W
STATION

Los Angeles, UCLA
STATION NAME

4/54-5/59

YEAR

ALL
MONTHS

ALL WEATHER

CLASS

34° 04', 118° 27', 430', 405 Hilgard Avenue

LOCATION

50'

HEIGHT ABOVE GROUND

ALL
SPEED (M.P.H.)

SPEED (MPH) DIE.																			%	MEAN WIND SPEED
N																			12.4	4.9
NNE																			7.5	3.4
NE																			6.2	3.0
ENE																			4.9	2.8
E																			4.5	3.2
ESE																			2.6	2.8
SE																			2.1	2.8
SSE																			2.4	2.8
S																			6.8	3.1
SSW																			16.2	3.8
SW																			12.8	4.4
WSW																			5.4	3.6
W																			2.0	2.5
WNW																			2.6	2.5
NW																			3.6	3.3
NNW																			7.8	4.0
CAUA																			99.8	3.5

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

26,387

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

April 1974 through March 1975

ALL

STATION

STATION NAME

ALL WEATHER

CLASS

ALL

MOVIES (L.A.Y.)

LOCATION

35 feet

HEIGHT ABOVE GROUND

Mean

SPEED MPH	1.5	5.0	9.5	15.0	21.0	34.5					%	MEAN WIND SPEED
Dir.												
N	1.3	3.0	1.3	0.6	0.4	0.1					6.6	7.5
NNE	1.0	2.4	1.4	0.6	0.1						5.4	7.4
NE	1.2	2.8	0.5	0.1	0.0						4.6	5.4
ENE	0.7	1.3	0.2								2.2	4.5
E	0.6	1.1	0.0								1.8	4.2
ESE	0.8	1.6	0.2	0.0							2.6	4.7
SE	1.1	2.0	0.4	0.4	0.1	0.0					4.1	6.6
SSE	0.8	1.2	0.3	0.2	0.1	0.0					2.7	6.7
S	1.4	2.0	0.3	0.1	0.1	0.0					4.0	5.0
SSW	0.1	2.3	0.2	0.1	0.0						3.5	4.8
SW	1.2	2.4	0.2	0.0	0.0						3.8	4.4
WSW	0.6	1.3	0.7	0.4	0.2	0.0					3.1	8.2
W	1.0	1.7	4.8	8.0	4.8	2.7					23.0	15.7
WNW	0.5	1.0	4.7	8.4	6.7	1.9					23.1	16.3
NW	0.9	1.1	2.2	1.3	0.4	0.0					5.9	10.1
NNW	0.6	1.0	0.8	0.4	0.4	0.2					3.5	10.4
CALA											0.3	11.0
0.3	14.6	28.1	18.2	20.6	13.3	5.1					100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

8.496

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

LYN
130W
9747124

Lynwood

STATION NAME

1973-1974

TEAM

ALL

ALL WEATHER

CLASS

33° 55', 118° 12', 115', , 11220 Long Beach Blvd.

LOCATION

351

HEIGHT ABOVE GROUND:

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

9.240

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Malibu F. S. 88

1963-1974

11

ALL WEATHER

CLASS

34° 02', 118° 42', 10', 23720 Malibu Rd.

LOCATION

301

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

93,360

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23208

MCCLELLAN AFB CALIF/SACRAMENTO

39-72

ALL

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

ALL

MOUSE (L.A.T.)

38°40', 121°24', 86'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.5	1.7	1.6	.7	.3	.1	.0	.0				5.9	7.5
NNE	.5	.5	.2	.1	.0	.0	.0	.0				1.3	5.5
NE	.6	.5	.2	.0	.0	.0	.0					1.2	4.5
ENE	.2	.2	.1	.0	.0	.0	.0					.6	4.3
E	1.0	.9	.3	.0	.0	.0						2.2	4.1
ESE	.9	1.4	.6	.1	.0	.0						3.1	5.0
SE	1.8	4.6	5.7	1.0	.2	.1	.0	.0	.0	.0		13.4	7.0
SSE	1.4	4.3	6.7	2.4	.6	.2	.1	.0	.0			15.7	8.5
S	2.0	4.5	7.0	2.9	.7	.1	.0	.0	.0			17.1	8.2
SSW	.8	1.7	2.1	.9	.1	.0	.0	.0				5.6	7.6
SW	.9	1.3	1.2	.4	.1	.0	.0	.0				3.9	6.5
WSW	.4	.4	.2	.1	.0	.0	.0	.0				1.0	5.2
W	.8	.8	.3	.0	.0	.0	.0	.0				1.9	4.5
WNW	.6	.7	.4	.1	.0	.0	.0					1.7	5.2
NW	1.2	1.6	1.5	.6	.2	.1	.0	.0	.0			5.3	7.6
NNW	.8	1.4	1.5	.9	.4	.2	.1	.0	.0			5.3	9.3
CAVA												14.9	
14.9	15.4	26.3	29.5	10.0	2.6	1.0	.3	.1	.0	.0		100.0	6.3

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

283884

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

24225

Medford, Oregon

1974

ALL

974724

STATION NAME

YEARS

ALL WEATHER

CLASS

42° 22' 122° 52' 1.3721

LOCATION

HEIGHT ABOVE GROUND

SPEED knts. DIR.	1-3	4-6	7-10	11-16	17-21	> 21				%	MEAN WIND SPEED
N	2.2	6.4	2.1	0.4						11.1	5.3
NNE	0.8	2.8	0.5							4.2	4.9
NE	0.7	1.7	0.2	0.0						2.6	4.4
ENE	0.7	0.7	0.1							1.5	4.1
E	0.5	0.9	0.1							1.4	4.3
ESE	0.5	1.7		0.0	0.0					2.3	4.5
SE	0.8	2.0	0.2	0.5	0.3	0.0				3.9	6.9
SSE	0.5	1.5	0.3	0.7	0.2	0.1				3.4	7.9
S	1.2	3.0	0.7	0.5	0.0					5.5	5.5
SSW	0.6	1.3	0.3	0.1	0.0					2.3	5.2
SW	0.7	1.5	0.2	0.1						2.5	4.6
WSW	0.8	1.5	0.2	0.1						2.6	4.7
W	1.2	2.1	1.2	0.4						4.9	5.8
WNW	1.3	3.4	2.6	1.0	0.0					8.2	6.6
NW	1.6	3.8	2.7	0.6						8.7	6.1
NNW	0.9	3.6	2.1	0.2						6.8	5.8
AVE	3.0	4.7	8.1	12.7	18.6	23.0					
CALL										28.1	4.1
28.1	14.9	38.1	13.5	4.6	0.7	0.1				100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

2,920

SURFACE WINDS

 PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

Milpitas Site

1965 - 1970

ALL
MONTH

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

36°04', 121°19', 1,200'

LOCATION

10'

HEIGHT ABOVE GROUND

ALL
MOON (L.E.T.)

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-31	> 31				%	MEAN WIND SPEED
N											11.21	
NNE											7.95	
N											4.09	
NNE											0.94	
E											0.29	
ESE											0.53	
SE											2.03	
SSE											11.42	
S											7.00	
SSW											2.18	
SW											0.98	
WSW											0.61	
W											0.74	
WNW											1.80	
NW											2.27	
NNW											8.10	
DATA											37.88	
37.88	38.92	20.12	2.98	0.10	0.00		0.00				100.00	

DATA FROM Hunter Liggett Military Reservation

TOTAL NUMBER OF OBSERVATIONS

50,028

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93107

STATION

MIRAMAR, CALIFORNIA NWSE

STATION NAME

47-72

YEAR

ALL

MONTH

ALL WEATHER

CLASS

32°52', 117°08', 472'

LOCATION

22'

HEIGHT ABOVE GROUND

SPEED (KNOTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	2.3	1.7	.3	.0	.0	.0	.0					4.3	3.6
NNE	1.0	.6	.1	.0	.0	.0	.0					1.7	3.7
NE	1.3	.7	.2	.1	.0	.0	.0					2.3	4.0
ENE	1.3	1.3	.2	.1	.0	.0	.0					3.0	4.3
E	3.7	4.7	1.1	.1	.0	.0	.0					9.6	4.3
ESE	1.3	1.3	.3	.0	.0	.0	.0					2.9	4.1
SE	1.3	1.1	.3	.0	.0	.0	.0					2.7	4.0
SSE	1.0	1.1	.5	.1	.0	.0	.0					2.6	4.9
S	1.7	1.7	.9	.2	.1	.0	.0	.0				4.6	5.2
SSW	1.3	1.7	1.2	.2	.0	.0	.0					4.4	5.6
SW	1.4	1.9	1.5	.3	.0	.0	.0					5.1	5.7
WSW	1.1	1.7	1.3	.2	.0	.0	.0					4.2	5.7
W	2.1	3.9	3.9	.5	.1	.0	.0					10.5	6.2
WNW	1.9	3.9	4.4	.7	.0	.0	.0					11.0	6.4
NW	2.8	3.5	2.9	.5	.0	.0	.0					9.8	5.6
NNW	2.1	1.9	.7	.1	.0							4.8	4.5
CAUA													
16.5	27.5	32.7	19.8	3.2	.3	.0	.0					100.0	4.4

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

212054

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Mission Hills

1966-1974

STATION NAME

NAME

ALL

110072

ALL WEATHER

CLASS

15345 S. F. Mission Blvd.

LOCATION

301

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

70,114

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Modesto, CA January 1940 thru September 1941

STATION NAME

ALL
BOOTS

ALL WEATHER

CLASS

37°38', 120°58', 95'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	10.3	0.3								10.6	
NNE	6.0	0.1								6.1	
NE	1.1									1.1	
ENE	1.3									1.3	
E	1.1	0.0	0.0							1.1	
ESE	4.3	0.6	0.0	0.0						5.0	
SE	3.3	1.2	0.1	0.0						4.6	
SSE	5.2	2.3	0.1	0.0						7.6	
S	1.0	0.2	0.0							1.2	
SSW	1.3	0.1								1.4	
SW	0.6	0.0								0.6	
WSW	1.0									1.0	
W	1.3									1.4	
WNW	7.8	1.2								9.0	
NW	8.5	1.4								9.9	
NNW	24.7	2.9	0.0							27.7	
CALM											
10.5	78.9	10.4	0.2	0.0						10.5	
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

15,321

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Mojave, CA BATION NAME April 1945 thru September 1958 YEAR 1958 ALL MONTHS ALL

ALL MONTHS (L.A.T.)

ALL WEATHER

CLASS

35° 03', 118° 11', 2,764'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	3-7	8-12	13-20	21-30	31-40	> 40					%	MEAN WIND SPEED
N	2.8	0.7	0.1	0.0							3.6	
NNE	0.8	0.3	0.1	0.0							1.2	
NE	2.4	1.5	0.6	0.1	0.0						4.7	
ENE	1.3	0.8	0.2	0.0	0.0						2.4	
E	2.6	0.8	0.2	0.0							3.6	
ESE	0.5	0.1	0.0								0.6	
SE	1.1	0.1	0.0								1.3	
SSE	0.4	0.1	0.0								0.6	
S	1.1	0.5	0.2	0.0							1.8	
SSW	0.7	1.1	0.9	0.1	0.0						2.8	
SW	1.9	3.5	2.6	0.2		0.0					8.2	
WSW	1.1	1.8	1.3	0.2	0.0						4.3	
W	1.9	3.5	3.7	1.4	0.2	0.0					10.8	
WNW	1.0	3.5	7.6	3.6	0.4	0.1					16.3	
NW	2.4	2.9	5.9	1.9	0.2	0.0					13.3	
NNW	1.0	0.9	0.9	0.2	0.0						3.1	
CALA											21.6	
21.6	23.0	22.2	24.5	7.8	1.0	0.1						

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

32,291

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

24259
STATION

MONTAGUE CAL FAX/SISKIYOU CNY AP

48-65

YEARS

ALL
MONTH

STATION

ALL WEATHER

CLASS

ALL
MONTH (L.R.T.)

41046', 122028', 2635'

LOCATION

20'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.6	4.7	4.8	2.0	.3	.1	.0					13.4	7.6
NNE	1.3	2.4	2.4	1.0	.2	.0	.0	.0				7.4	7.3
NE	1.7	2.8	1.0	.1	.0	.0	.0					5.7	5.0
ENE	.8	1.1	.4	.0	.0	.0	.0					2.3	4.9
E	.8	.7	.1	.0	.0	.0	.0					1.6	4.1
ESE	.4	.3	.1	.0	.0	.0	.0	.0				.9	4.4
SE	.7	.7	.3	.2	.2	.1	.0	.0				2.2	8.2
SSE	.5	.5	.4	.5	.5	.4	.2	.1	.0			3.2	13.5
S	.8	1.4	1.0	1.3	.7	.5	.1	.0	.0	.0		6.0	11.3
SSW	.7	.9	.7	.6	.3	.2	.1	.0	.0			3.5	9.4
SW	1.1	1.6	.9	.3	.1	.0	.0					4.1	6.2
WSW	.6	.8	.5	.2	.1	.0	.0	.0				2.2	6.6
W	.5	.6	.5	.3	.1	.0	.0					2.0	7.0
WNW	.4	.5	.5	.3	.1	.0	.0					1.8	7.7
NW	.8	1.8	2.2	1.0	.1	.0	.0					6.0	7.7
NNW	.7	1.6	2.3	1.3	.2	.0	.0					6.2	8.3
CALM													
31.4	13.5	22.4	18.2	9.4	3.0	1.5	.4	.1	.0	.0		31.4	
												100.0	5.3

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

152521

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23245 STATION MONTEREY, CALIFORNIA NWSSTATION NAME 45, 48-69 TIME
ALL WEATHER
36°36', 121°52', 168' LOCATION
8' HEIGHT ABOVE GROUND

ALL
BOOTH
ALL
BOOTH (L.S.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.8	2.1	1.0	.2	.0	.0						5.1	4.8
NNE	.6	.5	.2	.0	.0							1.3	4.1
NE	.6	.4	.2	.0							.0	1.2	3.9
ENE	.4	.3	.1	.0	.0	.0						.8	4.1
E	1.8	1.7	.6	.1	.0	.0	.0					4.1	4.2
ESE	1.7	1.6	.5	.0	.0	.0	.0					3.8	4.2
SE	2.2	1.7	.5	.1	.0	.0	.0					4.5	4.1
SSE	1.2	.9	.3	.1	.0	.0	.0					2.6	4.7
S	1.6	1.2	.5	.3	.1	.0	.0					3.7	5.3
SSW	1.1	1.2	.5	.3	.1	.0	.0	.0				3.2	5.8
SW	2.2	2.7	1.6	.7	.1	.0	.0	.0				7.3	5.9
WSW	1.6	2.6	1.9	.5	.1	.0						6.8	6.0
W	2.7	4.3	3.8	1.0	.1	.0	.0					11.8	6.2
WNW	1.7	2.8	3.0	1.1	.1	.0	.0					8.7	6.8
NW	2.6	4.1	4.6	1.7	.2	.0	.0					13.3	7.0
NNW	1.7	2.8	2.3	.6	.0	.0	.0					7.4	6.1
CALM												14.4	
14.4	25.5	30.8	21.5	6.8	.8	.2	.0	.0			.0	100.0	4.9

TOTAL NUMBER OF OBSERVATIONS 154998

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Montezuma, Collinsville, CA May 1970 thru April 1971

STATION NAME

ALL MONTHS

ALL WEATHER

CLASS

38°05', 121°04"

LOCATION

33 feet

HEIGHT ABOVE GROUND

Mean

SPEED MPH DIR.	1.0	2.0	3.0	5.5	10.0	15.5	21.5	37.5			%	MEAN WIND SPEED
N	0.2	0.2	0.2	0.5	0.5	0.7	1.0	0.6			4.0	15.0
NNE	0.2	0.1	0.1	0.3	0.3	0.2	0.1	0.1			1.5	10.3
NE	0.3	0.5	0.6	1.3	0.5	0.2	0.0	0.0			3.4	5.2
ENE	0.3	0.6	0.5	0.6	0.2						2.1	3.6
E	0.3	0.8	0.9	2.4	0.4	0.0					4.8	4.3
ESE	0.2	0.4	0.7	3.0	1.5	0.2					6.0	6.1
SE	0.2	0.5	0.6	1.8	1.1	0.5	0.0	0.0			4.7	6.7
SSE	0.0	0.3	0.3	0.7	0.1	0.1	0.0				1.7	5.1
S	0.2	0.2	0.6	0.6	0.3	0.1					2.0	4.8
SSW	0.1	0.1	0.2	0.7	0.2	0.1	0.0				1.3	5.4
SW	0.1	0.1	0.2	0.7	0.6	0.4	0.1	0.0			2.2	9.0
WSW	0.1	0.1	0.1	0.5	1.2	2.3	1.7	0.2			6.2	14.9
W	0.1	0.1	0.1	1.3	4.2	9.4	6.9	1.6			23.7	16.2
WNW	0.1	0.1	0.3	2.0	3.9	7.9	5.0	0.6			19.9	14.8
NW	0.1	0.4	0.8	4.1	3.6	2.5	0.6				12.1	9.1
NNW	0.2	0.2	0.3	1.8	0.8	0.5	0.2	0.1			4.2	8.3
CALM											0.2	11.5
0.2	2.5	4.8	6.6	22.5	19.2	25.1	15.8	3.3			100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

7,417

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

MON

056W

Montrose

STATION NAME

1/1/55-12/31/61

72A24

ALL WEATHER

CLASS

34° 12', 118° 14', 1200', 3809 Ocean View Avenue

LOCATION

30-

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

44,823

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Moss Landing Power Plant

March 1969 thru February 1973

STATION NAME ALL WEATHER YEAR ALL MONTHS ALL SEASONS (U.S.T.)

CLASS

36°48", 121°46'

LOCATION

HEIGHT ABOVE GROUND

Mean

SPEED MPH DIR.	1.5	5.1	9.6	15.1	21.1	29.1	39.1	49.1	77.1	%	MEAN WIND SPEED
N	0.0	0.0	0.0	0.0	0.0	0.0				0.1	10.2
NNE	0.0	0.1	0.0	0.0	0.0	0.0				0.2	11.6
NE	0.1	0.4	0.3	0.1	0.0	0.0				0.9	8.3
ENE	0.3	1.4	1.3	0.5	0.1	0.0				3.6	8.6
E	0.7	2.1	1.3	0.3	0.0	0.0				4.4	6.8
ESE	1.2	3.0	2.3	0.8	0.1	0.0				7.4	7.5
SE	1.4	2.9	2.1	0.9	0.3	0.1		0.0		7.6	8.1
SSE	1.1	1.8	0.5	0.2	0.0	0.0				3.6	5.9
S	0.7	1.4	0.8	0.2	0.0	0.0			0.0	3.3	6.8
SSW	0.6	1.5	1.0	0.5	0.3	0.1			0.0	4.1	9.4
SW	0.7	2.3	1.9	1.1	0.3	0.1				6.5	8.2
WSW	0.7	3.1	3.4	1.2	0.2	0.0				8.6	8.7
W	0.8	3.7	4.5	1.9	0.7	0.4				11.9	10.0
WNW	0.5	1.9	2.2	1.6	0.9	0.4			0.0	7.6	11.8
NW	0.3	1.2	1.3	0.9	0.4	0.1				4.1	10.7
NNW	0.1	0.3	0.4	0.4	0.3	0.1				1.7	13.3
CALA										24.6	9.0
24.6	9.1	27.1	23.3	10.6	3.8	1.5	0.0	0.0	0.0	100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

32,589

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Mt. Shasta, CA

January 1934 thru December 1938

ALL

STATION NAME

YEAR

ALL

ALL WEATHER

CLASS

41° 17', 122° 18', 3,586'

LOCATION

ALL

WIND (U.S.S.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	>47								%	MEAN WIND SPEED
N	11.0	4.1	0.1									15.2	
NNE	4.2	0.9	0.0									5.1	
NE	6.2	0.5	0.0									6.7	
ENE	0.2	0.0										0.2	
E	0.5	0.1	0.0									0.6	
ESE	1.1	0.4	0.0	0.0								1.6	
SE	14.4	11.1	1.2	0.0								26.7	
SSE	4.5	4.5	0.4	0.1								9.5	
S	3.6	2.3	0.1	0.0								6.0	
SSW	0.8	0.4	0.0									1.2	
SW	1.1	0.1										1.2	
WSW	0.2	0.0										0.2	
W	0.5	0.0	0.0									0.5	
WNW	0.5	0.1										0.7	
NW	9.1	2.6	0.0									11.8	
NNW	4.0	2.5	0.1									6.5	
CAUL													
6.3	62.0	29.7	1.9	0.1								100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

37,577

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Mt. Vaca, CA (PG&E)

November 1972 thru October 1974

ALL

STATION

STATION NAME

YEAR

DATE

ALL WEATHER

CLASS

38°24', 122°06'

LOCATION

ALL

MOSES (L.A.T.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-50	51-65	> 65			%	MEAN WIND SPEED
N	0.2	0.9	1.5	1.6	1.3	1.4					6.9	16.5
NNE	0.2	1.7	3.3	3.5	2.5	4.0	0.0				15.2	18.1
NE	0.4	3.1	3.1	1.7	0.7	0.7					9.7	11.5
ENE	0.3	0.7	0.3	0.2	0.1	0.1					1.7	9.0
E	0.2	0.5	0.2	0.2	0.1	0.0					1.1	8.5
ESE	0.1	0.3	0.2	0.1	0.1	0.0					0.8	9.7
SE	0.2	0.4	0.3	0.3	0.2	0.1					1.5	11.8
SSE	0.2	0.5	0.4	0.4	0.2	0.1	0.0	0.0			1.8	13.2
S	0.3	1.3	1.1	1.3	0.9	0.8	0.0	0.0			5.7	14.6
SSW	0.3	1.8	2.7	3.3	2.6	2.3					13.0	16.3
SW	0.3	2.4	5.1	6.1	3.3	1.7					18.8	14.7
WSW	0.1	1.1	1.8	2.7	1.8	0.5					7.9	14.6
W	0.1	0.7	2.1	2.7	0.8	0.1					6.5	13.2
WNW	0.1	0.5	1.3	1.3	0.2	0.0					3.4	12.1
NW	0.1	0.5	1.0	0.8	0.4	0.2					3.0	13.0
NNW	0.1	0.5	0.9	0.7	0.5	0.2					2.8	13.8
CALM											0.1	14.7
0.1	3.1	16.8	25.3	26.8	15.7	12.2	0.1	0.0			100.0	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

15,103

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

1966 - 1968

Napa, CA

STATION NAME

ALL

YEAR

ALL WEATHER

CLASS

38°13', 122°17', 5'

LOCATION

ALL

NO.102 (L.A.F.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-5	6-10	11-15	16-20	21-30						%	MEAN WIND SPEED
N											2.8	
NNE											0.5	
N											0.7	
ENE											4.9	
E											5.9	
ESE											1.2	
SE											1.3	
SSE											2.0	
S											17.9	
SSW											12.4	
SW											8.6	
WSW											9.3	
W											8.6	
WNW											1.4	
W											1.1	
NNW											1.6	
CALA											19.7	
20	4	42	22	9	3						99.9	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

19,547

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

23179

Needles, CA

STATION NAME

1969 thru 1974

YEAR

ALL

MONTH

ALL WEATHER

CLASS

34°46', 114°37', 919'

LOCATION

ALL

MOYAR (L.R.T.)

HEIGHT ABOVE GROUND

SPEED Knots Dir.	1-3	4-6	7-10	11-16	17-21	> 21					%	MEAN WIND SPEED
N	0.1	1.6	2.4	2.8	1.9	1.0					9.8	13.2
NNE	0.0	1.0	0.7	0.3	0.1	0.0					2.2	8.2
NE	0.0	0.8	0.4	0.1	0.0	0.0					1.4	6.5
ENE	0.0	1.0	0.7	0.1	0.0	0.0					1.9	6.8
E	0.0	1.5	1.1	0.2	0.0	0.0					2.8	7.2
ESE	0.0	0.6	0.6	0.1	0.0	0.0					1.4	7.5
SE	0.0	0.6	0.6	0.3	0.0	0.0					1.6	8.4
SSE	0.0	0.8	1.2	1.0	0.2	0.0					3.3	10.1
S	0.1	1.8	4.2	3.5	0.8	0.4					10.6	10.6
SSW	0.0	1.8	3.4	1.6	0.3	0.0					7.3	9.2
SW	0.1	2.0	3.9	1.3	0.2	0.0					7.4	8.6
WSW	0.1	3.2	4.1	1.2	0.2	0.1					8.8	8.2
W	0.1	3.1	2.7	0.7	0.3	0.1					7.0	8.0
WNW	0.0	1.7	1.7	0.3	0.1	0.0					3.8	7.6
NW	0.0	1.2	1.8	0.5	0.1	0.0					3.8	8.5
NNW	0.0	1.1	2.2	1.8	0.6	0.2					6.0	11.0
AVE.	2.9	5.2	8.5	13.3	18.8	25.0						
CALA												
21.0	0.7	24.0	31.7	15.9	4.9	1.7					21.0	7.4
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43,794

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23112

NELLIS AFB NEVADA/LAS VEGAS

42-44, 49-72

ALL

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

36°15', 115°02', 1880'

LOCATION

13'

HEIGHT ABOVE GROUND

ALL

MONTH

MOUSE (L.R.V.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.0	1.3	.7	.5	.2	.1	.0	.0	.0	.0		3.8	7.0
NNE	1.0	1.3	.8	.9	.5	.2	.0	.0	.0	.0		4.7	8.9
N	1.8	2.7	2.4	1.6	.4	.1	.0	.0	.0	.0		8.8	7.7
ENE	.9	1.4	1.4	.5	.1	.0	.0	.0	.0	.0		4.3	6.8
E	1.4	1.9	1.6	.4	.1	.0	.0	.0	.0	.0		5.3	6.2
ESE	.6	.8	.7	.3	.1	.0	.0	.0	.0	.0		2.6	6.7
SE	.8	1.1	1.0	.6	.2	.0	.0	.0	.0	.0		3.7	7.6
SSE	.4	.6	.7	.8	.3	.1	.0	.0	.0	.0		2.9	10.1
S	1.3	2.3	2.9	2.8	1.0	.3	.0	.0	.0	.0		6.7	10.1
SSW	1.1	1.5	1.4	1.6	.8	.4	.0	.0	.0	.0		5.9	8.8
SW	1.2	1.6	1.2	1.2	.5	.2	.0	.0	.0	.0		1.7	7.1
WSW	.5	.3	.3	.3	.1	.0	.0	.0	.0	.0		2.7	6.7
W	.9	.9	.4	.3	.1	.1	.0	.0	.0	.0		2.1	9.0
WNW	.6	.5	.3	.3	.2	.1	.0	.0	.0	.0		2.7	7.5
NW	.8	.8	.4	.4	.2	.1	.0	.0	.0	.0		1.2	6.1
NNW	.4	.4	.2	.1	.0	.0	.0	.0	.0	.0		30.1	
CALM												100.0	5.8
30.1	14.8	19.5	16.3	12.7	4.7	1.6	.2	.0	.0	.0			

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

230638

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Newhall
STATION NAME

1969-1975

Newhall

647

ALL

2007

ALL WEATHER

CLASS

34° 22', 118° 33', 1270,

LOCATION

301

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

54.443

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

NP

063W

STATION

Newport Beach

STATION NAME

8/54-12/74

YEAR

ALL

DAYS

ALL WEATHER

CLASS

, 1900 Bayside Drive

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH Dir																		%	MEAN WIND SPEED
N																		10.8	2.0
NNE																		3.3	6.0
N E																		5.5	5.3
ENE																		0.9	4.8
E S																		2.6	3.9
ESE																		2.3	5.2
SE																		10.5	7.1
SSE																		10.1	8.0
S																		7.9	6.2
SSW																		4.1	6.0
SW																		11.3	5.6
WSW																		8.2	7.0
W																		14.8	8.0
WNW																		2.7	7.9
NW																		3.5	5.0
NNW																		1.3	4.5
CALA																		99.8	5.2

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

147,531

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23122

NORTON AFB CALIF/SAN BERNARDINO

43-72

STATION

STATION NAME

YEARS

ALL

NORTH

ALL WEATHER

CLASS

ALL

HOURS (L.R.T.)

34006', 117015', 1099'

LOCATION

135'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.6	.3	.4	.4	.3	.1	.0	.0				2.2	10.2
NNE	.4	.3	.2	.2	.1	.1	.0	.0				1.2	8.7
NE	1.0	.8	.2	.1	.0	.0	.0					2.1	4.9
ENE	1.1	1.0	.2	.0	.0	.0	.0					2.3	4.0
E	2.8	2.2	.8	.1	.0	.0	.0					5.8	4.2
ESE	1.5	1.2	.5	.1	.0	.0	.0					3.2	4.4
SE	1.5	1.1	.6	.1	.0	.0	.0					3.3	4.6
SSE	.5	.3	.2	.1	.0	.0	.0					1.0	4.8
S	.8	.4	.2	.0	.0	.0	.0					1.4	4.4
SSW	.7	.5	.4	.0	.0	.0	.0					1.7	5.0
SW	2.1	2.9	2.7	.5	.0	.0	.0					8.2	5.9
WSW	1.9	3.4	3.9	.9	.0	.0	.0					10.1	6.6
W	2.3	3.7	3.8	.8	.0	.0	.0					10.6	6.3
WNW	.8	1.0	.6	.1	.0	.0	.0					2.6	5.4
NW	.8	.7	.4	.2	.1	.0	.0	.0				2.2	5.9
NNW	.3	.3	.2	.2	.1	.0	.0	.0				1.2	8.6
CALM												40.7	
40.7	18.9	20.2	15.4	3.7	.8	.3	.1	.0				100.0	3.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

259005

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Northridge CSU

STAY HIGH MARIJUANA

ALL WEATHER

CLASS

34° 14'. 118° 32', 857', 1811 Nordhoff Street

LOCATION

152

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

83.768

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

KMP
043W

North Hollywood

6/14/55 - 4/1/65

ALL
MONTH

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

34°10', 118° 25', 900' 12755 Burbank Bloulevard

LOCATION

30'

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥ 56	%	MEAN WIND SPEED
N												2.2	4.8
NNE												1.0	6.3
NE												1.5	2.3
ENE												2.0	2.4
E												5.1	2.8
ESE												2.6	3.2
SE												10.3	4.2
SSE												12.6	5.2
S												14.4	5.1
SSW												4.1	3.7
SW												4.3	2.3
WSW												6.9	2.6
W												14.3	2.6
WNW												5.7	2.5
NW												4.7	4.9
NNW												2.6	7.0
CALA													
												99.7	3.9

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

82,539

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

WIL
032W
STATION

Norwalk

STATION NAME

1/1/55 - 12/31/59

YEAR

ALL
DATA

ALL WEATHER

CLASS

33° 55' 118° 04' 100 13539 Foster Road

LOCATION

ALL
WIND (L.S.F.)

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	56	%	MEAN WIND SPEED
N												7.6	2.8
NNE													
NE												3.2	3.3
ENE													
E S												10.3	4.8
ESE												17.3	3.9
SE												19.4	4.2
SSE												21.5	5.5
S												13.5	4.9
SSW												7.2	4.1
SW													
WSW													
W													
WNW													
NW													
NNW													
CALM												100.0	4.4

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

23,781

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Station Oakland Airport

Year 1951 - 1960

ALL
MONTHS

ALL WEATHER

CLASS

37°04' N, 122°12' W, 3', 49

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-31	32-38	39-46	≥ 47	%	MEAN WIND SPEED
N	0.6	1.3	0.7	0.3	0.1	+	+	+	+	3.0	7.5
NNE	0.4	0.6	0.3	0.2	0.1	+	+	+	+	1.7	8.6
NNE	0.6	0.7	0.3	0.1	+	+	+	+	+	1.8	6.3
ENE	0.6	1.1	0.4	0.1	+	+	+	+	+	2.2	5.5
E	0.9	1.4	0.3	+	+	+	+	+	+	2.7	4.9
ESE	0.8	1.5	0.3	+	+	+	+	+	+	2.7	5.1
SE	0.8	2.3	1.6	0.6	0.1	+	+	+	+	5.4	7.8
SSE	0.4	1.0	1.1	0.9	0.3	0.1	+	+	+	3.9	10.8
S	0.5	1.2	0.8	0.3	0.1	+	+	+	+	3.9	7.8
SSW	0.4	1.2	1.0	0.4	0.1	+	+	+	+	3.1	8.1
SW	0.7	2.2	2.2	0.9	0.1	+	+	+	+	6.1	8.5
WSW	0.5	2.7	4.4	2.6	0.3	+	+	+	+	10.6	10.0
W	0.8	3.3	5.7	4.1	0.6	0.1	+	+	+	14.6	10.5
WNW	0.8	3.4	5.8	4.0	0.5	0.1	+	+	+	14.6	10.4
NW	0.9	2.2	2.1	0.8	0.1	+	+	+	+	6.0	7.9
NNW	0.5	1.3	0.9	0.3	+	+	+	+	+	3.1	7.4
CALM	10.2	27.6	27.8	15.8	2.4	0.5	0.1	+	+	15.6	
15.6	10.2	27.6	27.8	15.8	2.4	0.5	0.1	+	+	100.0	7.5

TOTAL NUMBER OF OBSERVATIONS 87,672

+ = more than 0 but less than 0.5

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Oceanside, CA

1934 thru 1938

ALL
MONTHS

STATION NAME

YEAR

ALL WEATHER

CLASS

33° 14', 117° 25', 26'

LOCATION

HEIGHT ABOVE GROUND

ALL
MOVES (L.R.T.)

SPEED MPH DIR.	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	1.5	0.1	0.0							1.6	
NNE	0.7	0.1								0.8	
NE	17.3	1.4	0.0							18.7	
ENE	4.0	0.5								4.5	
E	8.0	0.3								8.3	
ESE	0.6	0.0								0.6	
SE	2.9	0.1	0.0							3.1	
SSE	0.5	0.1								0.6	
S	3.7	0.4	0.0							4.1	
SSW	0.8	0.1	0.0							0.9	
SW	9.0	0.3	0.0							9.3	
WSW	2.2	0.1								2.3	
W	14.9	1.1	0.0							16.0	
WNW	3.5	0.5	0.0							4.0	
NW	10.2	1.7	0.0							11.9	
NNW	0.4	0.0								0.4	
CALA											
13.0	80.2	6.7	0.1							13.0	
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 43,761

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93180

ONTARIO CALIFORNIA WB 2ND ORD

49-53,55

ALL

STATION

STATION NAME

YEAR

MONTH

ALL WEATHER

CLASS

ALL

HOURS (L.M.T.)

34003', 117036', 919'

LOCATION

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.1	1.1	.3	.0	.0	.1	.0	.0		.0		2.5	4.5
NNE	.3	.5	.3	.2	.2	.2	.1	.0				1.6	9.0
NE	1.4	1.0	.6	.2	.2	.2	.1	.0	.0			3.8	7.9
ENE	.4	.4	.4	.3	.3	.1	.1	.0	.0			2.1	11.1
E	1.6	.9	.3	.2	.1	.0	.0	.0				3.1	5.1
ESE	.4	.4	.2	.1	.0	.0			.0			1.1	6.0
SE	1.7	.8	.1	.0	.0							2.7	3.9
SSE	.5	.4	.1	.0								1.0	4.6
S	2.0	1.4	.5	.0								3.9	4.3
SSW	.8	1.6	1.3	.4	.1	.0						4.2	6.8
SW	2.9	4.2	5.7	3.8	.7	.1						17.4	8.3
WSW	1.4	4.9	11.8	11.9	2.7	.2						33.0	10.6
W	1.7	2.8	4.3	2.3	.6	.1	.0					11.9	8.5
WNW	.5	1.0	.9	.2	.0	.0						2.7	6.6
NW	.9	1.0	.4	.1	.0							2.4	5.0
NNW	.2	.3	.1	.0								.6	5.2
CAUA													
6.1	17.5	23.0	27.4	19.9	4.9	.9	.1	.1	.0	.0		100.0	7.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

23378

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Oroville RS STATION NAME July 1968 - June 1972 YEARS ALL
ALL WEATHER CLASS ALL
MOONS (L.R.V.)

LOCATION _____

HEIGHT ABOVE GROUND _____

SPEED MPH Dir.	0-5	6-15	16-30	31-45														%	MEAN WIND SPEED
N		1.8	0.7																
NNE																			
NE		1.9	0.2																
ENE																			
E		0.8																	
ESE																			
SE		4.7	1.1																
SSE																			
S		14.0	3.6	0.2															
SSW																			
SW		9.4	0.7																
WSW																			
W		3.2	0.2																
WNW																			
NW		6.4	3.0																
NNW																			
CAUA																			
	48.1	42.2	9.5	0.2														100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801
TOTAL NUMBER OF OBSERVATIONS

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23136 OXNARD CALIFORNIA AFB

44-45, 52-67

ALL

STATION NAME

YEAR

ALL WEATHER

CLASS

ALL

MOVES (U.S.T.)

34°13', 119°04', 82'

LOCATION

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.9	.6	.1	.0	.0	.0	.0					1.6	3.7
NNE	.7	.5	.2	.0	.0	.0	.0					1.5	4.6
NE	1.8	2.1	.9	.6	.2	.1	.0	.0				5.7	6.6
ENE	1.8	2.2	1.1	1.0	.5	.2	.0	.0				6.8	7.7
E	1.5	1.4	.7	.5	.2	.1	.0	.0				4.4	6.6
ESE	.6	.4	.1	.1	.0	.0	.0					1.2	5.1
SE	.6	.3	.1	.0	.0	.0	.0					1.0	3.9
SSE	.4	.2	.1	.0	.0	.0	.0					.8	4.1
S	.8	.7	.5	.2	.0	.0	.0					2.2	5.4
SSW	.8	1.1	1.0	.3	.0	.0	.0					3.2	6.1
SW	1.7	3.3	3.9	.7	.0	.0	.0					9.7	6.5
WSW	1.4	3.4	4.8	.9	.1	.0	.0					10.4	7.0
W	2.3	3.7	4.6	1.6	.3	.1	.0	.0				12.6	7.2
WNW	1.3	1.1	.6	.3	.0	.0	.0					3.3	5.4
NW	1.9	1.5	.3	.0	.0	.0	.0					3.7	3.9
NNW	1.0	.7	.1	.0	.0	.0	.0					1.8	3.7
CALM												30.0	
30.0	19.5	23.2	19.0	6.3	1.4	.5	.1	.0				100.0	4.4

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

143280

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23182 STATION PALMDALE APT CALIF STATION NAME 48-54, 61-64, 71-73 YEAR ALL MONTH

ALL WEATHER CLASS 34038', 118005', 2520' LOCATION 28' MOUSE (L.R.T.)

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.9	1.7	1.0	.2	.0	.0	.0					3.8	5.7
NNE	.4	1.0	.7	.2	.0	.0	.0	.0				2.4	6.8
NE	.5	.9	.7	.3	.1	.0	.0					2.5	7.1
ENE	.2	.5	.6	.4	.1	.0		.0				1.9	8.7
E*	.3	.6	.5	.3	.1	.0						1.9	7.7
ESE	.2	.5	.4	.1	.0	.0	.0					1.2	6.9
SE	.4	.9	.3	.1	.0	.0						1.7	5.3
SSE	.4	1.1	.5	.0	.0	.0	.0					2.1	5.6
S	1.3	5.1	3.3	.5	.1	.0	.0	.0				10.3	6.4
SSW	.8	3.7	3.2	2.0	1.1	.4	.0	.0				11.3	9.5
SW	1.3	3.4	4.5	5.8	3.1	1.2	.1	.0				19.5	11.7
WSW	.4	1.2	2.5	4.1	1.9	.4	.0	.0				10.6	12.4
W	.5	1.0	1.7	2.1	.9	.4	.1	.0		.0		6.7	11.6
WNW	.4	1.1	1.4	2.0	1.5	1.0	.2	.0				7.4	13.7
NW	.6	1.3	1.0	.7	.4	.2	.0	.0				4.3	9.3
NNW	.5	1.1	.6	.1	.0	.0	.0					2.4	6.3
CALA												10.0	
10.0	9.1	25.2	23.1	19.0	9.4	3.8	.4	.0		.0		100.0	8.8

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

109166

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Palm Springs AAF

May 1943 thru February 1946

ALL

WOLFE

ALL WEATHER

CLASS

33°54', 116°33', 420'

LOCATION

HEIGHT ABOVE GROUND

[illegible]

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

24.286

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

PVH
00LW
STATION

Palos Verdes

STATION NAME

1/1/55 - 12/31/57

PERIOD

ALL

DATE

ALL WEATHER

CLASS

33° 45', 118° 10', 1500 Radar Hill

LOCATION

ALL

MOON (L.R.T.)

HEIGHT ABOVE GROUND

SPEED MPH	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	56	%	MEAN WIND SPEED
DIR.													
N												3.2	6.6
NNE												3.1	5.4
NE												6.1	6.0
ENE												7.6	6.3
E S												5.7	5.6
ESE												4.8	5.4
SE												6.0	5.9
SSE												5.9	6.2
S												7.0	5.1
SSW												2.7	4.4
SW												3.6	4.7
WSW												7.2	6.6
W												16.2	9.2
WNW												14.3	9.6
NW												4.3	7.9
NNW												2.4	9.5
CALA													
												100.1	6.9

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS 12,941

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Pasadena FDEC3

1959 - 1970

ALL WEATHER

CLASS

515 N. Lake Avenue

LOCATION

40

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

	TOTAL NUMBER OF OBSERVATIONS	92,230
1. Age		
2. Sex		
3. Education		
4. Income		
5. Health		
6. Employment		
7. Marital Status		
8. Religion		
9. Political Affiliation		
10. Geographic Location		
11. Family Size		
12. Social Network		
13. Cultural Background		
14. Life Events		
15. Psychological State		
16. Environmental Factors		
17. Lifestyle Choices		
18. Socioeconomic Status		
19. Community Involvement		
20. Personal History		
21. Genetic Predisposition		
22. Chronic Conditions		
23. Mental Health Issues		
24. Substance Use		
25. Sleep Patterns		
26. Diet and Nutrition		
27. Physical Activity Levels		
28. Stress Management		
29. Coping Mechanisms		
30. Resilience Factors		
31. Support Systems		
32. Healthcare Access		
33. Insurance Coverage		
34. Financial Stability		
35. Housing Situation		
36. Transportation Options		
37. Digital Literacy Skills		
38. Online Engagement		
39. Social Media Usage		
40. Information Seeking Behavior		
41. Decision-Making Style		
42. Risk Tolerance		
43. Future Planning		
44. Goal Setting		
45. Self-Efficacy Beliefs		
46. Perceived Control		
47. Optimism Levels		
48. Hopefulness Index		
49. Sense of Purpose		
50. Meaning in Life		
51. Existential Concerns		
52. Spiritual Beliefs		
53. Faith Practices		
54. Religious Observance		
55. Theological Perspectives		
56. Ethical Frameworks		
57. Moral Reasoning		
58. Virtue Development		
59. Character Traits		
60. Personality Dimensions		
61. Temperament Types		
62. Emotional Regulation		
63. Cognitive Functioning		
64. Memory Retention		
65. Attention Span		
66. Problem-Solving Skills		
67. Creativity Levels		
68. Intellectual Curiosity		
69. Lifelong Learning Attitude		
70. Knowledge Acquisition		
71. Skill Development		
72. Career Advancement		
73. Professional Growth		
74. Entrepreneurial Spirit		
75. Innovation Mindset		
76. Adaptability to Change		
77. Flexibility in Thinking		
78. Openness to Experience		
79. Conscientiousness		
80. Agreeableness		
81. Neuroticism		
82. Extraversion		
83. Introversion		
84. Sensitivity to Stimuli		
85. Impulsivity Levels		
86. Delayed Gratification		
87. Time Management		
88. Productivity Habits		
89. Work-Life Balance		
90. Leisure Time Utilization		
91. Hobbies and Interests		
92. Volunteering Activities		
93. Civic Participation		
94. Voting Behavior		
95. Policy Preferences		
96. Environmental Awareness		
97. Sustainability Concerns		
98. Climate Action Commitment		
99. Global Citizenship		
100. Cross-Cultural Understanding		

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93209

STATION

PASO ROBLES COUNTY APT CALIF

STATION NAME

48-64

TEARS

ALL

MONTH

ALL WEATHER

CLASS

ALL

MOUSE (L.A.T.T.)

35°40', 120°38', 807'

CLASS

LOCATION

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N	.5	1.1	.6	.2	.0	.0						2.5	6.1
NNE	.6	.9	.4	.1	.0	.0						2.0	5.3
NE	.5	.9	.4	.1	.0							1.9	5.3
ENE	.4	.7	.5	.3	.0	.0						2.0	6.7
E	.5	1.3	1.0	.4	.0	.0	.0					3.2	6.9
ESE	.5	.9	.7	.2	.0	.0						2.3	6.4
SE	.8	1.2	.5	.1	.0	.0						2.6	5.3
SSE	.4	.6	.3	.2	.0	.0						1.5	6.5
S	.4	1.3	1.4	1.0	.2	.0						4.4	8.6
SSW	.4	1.1	1.8	2.1	.5	.1	.0					5.9	10.3
SW	.5	1.6	1.9	1.6	.3	.0	.0					5.9	9.1
WSW	.5	1.0	1.1	1.1	.5	.3	.0	.0				4.6	10.5
W	.6	1.8	1.2	.6	.2	.1	.0					4.5	7.8
WNW	.7	2.1	2.3	1.2	.1	.0	.0					6.5	7.8
NW	.6	3.7	4.4	2.8	.5	.1	.0					12.1	8.7
NNW	.7	1.6	1.9	1.4	.4	.1	.0					6.0	8.8
CALA												32.2	
32.2	8.7	21.8	20.4	13.4	2.9	.6	.0	.0				100.0	5.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

141450

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Station Name _____
Pescadero - Pigeon Point

June 1943 thru September 1944

ALL MONTHS _____

YEAR

ALL WEATHER

ALL

CLASS

MOSES (L.S.T.)

37°12', 122°22', 463'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47					%	MEAN WIND SPEED
N	0.4	7.1	3.1	0.0							10.6	10.7
NNE	0.3	4.7	1.7	0.0	0.1	0.0					6.9	10.4
NE	0.3	4.0	0.3	0.0	0.0	0.1					4.7	8.7
ENE	0.2	1.9	0.1								2.1	6.8
E	0.3	1.0	0.0								1.3	5.8
ESE	0.3	1.3	0.1								1.8	6.8
SE	0.3	2.4	0.7	0.0							3.3	9.1
SSE	0.4	4.8	4.2	0.3	0.1						9.7	12.0
S	0.3	3.4	1.5	0.0							5.2	10.4
SSW	0.3	2.7	0.4								3.4	8.2
SW	0.2	1.3	0.1								1.7	6.7
WSW	0.3	0.8	0.1								1.2	6.8
W	0.3	1.1	0.2	0.0							1.6	7.1
WNW	0.4	4.4	1.3	0.0	0.0						6.2	9.8
NW	0.4	6.6	5.2	0.4	0.2						12.7	12.6
NNW	0.5	11.3	15.0	0.4	0.0						27.2	13.3
CAUA											0.4	
0.4	5.1	58.8	34.0	1.2	0.4	0.1					100.0	11.1

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

11,513

SURFACE WINDS

 PERCENTAGE FREQUENCY OF WIND
 DIRECTION AND SPEED
 (FROM HOURLY OBSERVATIONS)

STATION	Pittsburg	STATION NAME	ALL WEATHER	YEAR	1967 - 1976	ALL NORTH
CLASS	38°01', 121°51', 10'	LOCATION	25'	HEIGHT ABOVE GROUND		ALL NORTH
LOCATION	25'					HOUSE (L.R.T.)

SPEED MPH DIR.	1 - 3	4 - 6	7 - 10	11 - 16	17 - 21	22 - 27	28 - 33	34 - 40	41 - 47	48 - 55	≥ 56	%	MEAN WIND SPEED
N												2	3
NNE												3	3
NE												5	3
ENE												5	4
E												4	4
ESE												3	4
SE												2	5
SSE												3	6
S												6	7
SSW												11	8
SW												16	10
WSW												20	8
W												10	8
WNW												5	6
NW												3	6
NNW												2	4
Calm												100	7

DATA FROM Dow Chemical Company

TOTAL NUMBER OF OBSERVATIONS

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Pittsburg Power Plant, CA December 1970 thru November 1973

ALL MONTHS (L.R.T.)

STATION NAME

YEAR

ALL WEATHER

CLASS

38°03', 121°54', 20'

LOCATION

33 feet

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-33	34-44					%	MEAN WIND SPEED
N	0.8	0.7	0.5	0.6	0.3	0.2	0.0					3.1	10.1
NNE	0.5	0.4	0.2	0.1	0.0	0.0						1.2	6.0
NE	0.7	0.7	0.1	0.0	0.0							1.6	4.8
ENE	0.7	1.3	0.3	0.0	0.0							2.4	4.8
E	1.5	2.7	0.9	0.2	0.0	0.0						5.3	5.5
ESE	1.3	1.7	1.0	0.3	0.1	0.0						4.5	6.5
SE	1.4	0.8	0.4	0.2	0.0							2.8	5.2
SSE	0.9	0.4	0.1	0.1	0.0							1.6	4.4
S	1.2	0.4	0.3	0.1	0.1	0.0						2.0	5.1
SSW	1.0	0.6	0.7	0.5	0.2	0.0	0.0					3.0	7.9
SW	1.1	1.8	3.9	4.4	0.7	0.1	0.0					11.9	11.3
WSW	0.9	2.6	7.4	8.2	1.9	0.0						21.1	12.2
W	1.0	3.0	7.6	8.9	1.8	0.0						22.3	12.1
WNW	0.7	1.8	3.3	3.8	0.4	0.0						10.0	11.0
NW	0.7	1.2	0.9	0.8	0.1	0.0						3.8	8.5
NNW	0.7	0.5	0.3	0.4	0.4	0.1						2.4	10.1
CALA												0.9	10.1
0.9	15.2	20.6	28.0	28.6	6.1	0.5	0.0					99.9	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS

23,568

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Point Arena, CA

January 1937 thru October 1942

ALL

STATION

STATION NAME

YEAR

DATE

ALL WEATHER

CLASS

ALL

0000 (L.S.F.)

38°55', 123°43', 259'

LOCATION

HEIGHT ABOVE GROUND

SPEED DIR.	1-3	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	0.9	13.7	12.9	0.9	0.0						28.4	15.7
NNE	0.0	0.4	0.4	0.0							0.8	15.5
NE	1.3	6.7	2.3	0.2	0.0						10.5	11.2
ENE	0.1	0.1	0.0								0.2	7.4
E	0.8	2.4	0.3	0.0							3.5	7.5
ESE	0.0	0.1	0.0	0.0							0.1	13.9
SE	1.0	10.9	5.7	1.1	0.1						18.8	14.4
SSE	0.1	0.5	0.1	0.0							0.7	11.4
S	1.5	5.7	0.8	0.1							8.1	7.8
SSW		0.1	0.1								0.2	12.7
SW	0.6	1.5	0.5	0.0	0.0						2.7	9.3
WSW	0.0	0.0	0.0								0.1	9.2
W	0.7	1.1	0.2								1.9	6.9
WNW	0.1	0.1									0.1	6.1
NW	0.9	7.0	11.2	1.5	0.1						20.8	18.3
NNW	0.0	0.7	1.0	0.2							2.0	19.4
CALM												
1.0	8.0	51.1	35.5	4.2	0.2						1.0	14.1
											100.0	

DATA FROM National Climatic Center
Federal Building, Asheville, NC 28801

TOTAL NUMBER OF OBSERVATIONS

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Point Arena, CA August 1970 thru July 1972

STATION NAME

STATION NAME

ALL WEATHER

CLASS

38°56' 123°42' 238'

LOCATION

16'

HEIGHT ABOVE GROUND

ALL
MONTHS

ALL
MONTHS (L.R.T.)

SPEED MPH Dir.	1-3	4-7	8-12	13-18	19-24	25-50					%	MEAN WIND SPEED
N	0.3	1.4	5.9	13.2	7.6	0.0					30.0	16.0
NNE	0.2	1.4	2.8	1.2	0.5	0.0					6.1	10.6
NE	0.3	1.3	1.2	0.0	0.0	0.0					2.9	6.8
ENE	0.2	0.7	0.3	0.0	0.0	0.0					1.3	5.8
E	0.7	0.8	0.3	0.1	0.1	0.0					2.0	5.5
ESE	0.8	1.0	0.3	0.2	0.1	0.1					2.4	7.2
SE	1.0	2.6	3.6	3.0	1.7	1.5					13.4	13.3
SSE	0.5	1.2	0.9	0.9	0.5	0.3					4.3	11.9
S	0.6	0.8	0.4	0.3	0.2	0.1					2.4	9.4
SSW	0.2	0.4	0.2	0.1	0.1	0.0					1.0	8.1
SW	0.4	0.4	0.3	0.1	0.1	0.0					1.2	7.3
WSW	1.2	0.2	0.1	0.1	0.0	0.0					0.6	6.0
W	0.4	0.3	0.1	0.1	0.1	0.0					1.0	7.2
WNW	0.3	0.4	0.1	0.1	0.1	0.0					1.1	8.2
NW	0.3	1.1	1.0	0.7	0.4	0.0					3.6	10.3
NNW	0.2	1.4	4.4	8.7	8.3	3.6					26.6	17.6
CAUK											0.1	14.0
0.1	6.9	15.4	22.0	28.7	19.7	7.4					99.9	

DATA FROM Pacific Gas and Electric Company

TOTAL NUMBER OF OBSERVATIONS 8,251

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

93215

Point Arguello, CA

1959 thru 1963

ALL

STATION NAME

YEAR

ALL WEATHER

CLASS

ALL

MOVES (L.R.T.)

34°41', 120°35', 371'

LOCATION

HEIGHT ABOVE GROUND

SPEED DIR.	3-7	8-12	13-20	21-30	31-40	> 40				%	MEAN WIND SPEED
N	2.0	0.6	0.2	0.0						2.7	
NNE	0.6	0.2	0.1							0.9	
NE	0.5	0.1	0.0							0.6	
ENE	0.5	0.0	0.0							0.6	
E	4.4	0.9	0.0							5.3	
ESE	6.6	1.5	0.3	0.1						8.4	
SE	1.5	0.3	0.4	0.1						2.2	
SSE	0.2	0.3	0.3	0.0	0.0					0.9	
S	0.3	0.2	0.2	0.0	0.0					0.7	
SSW	0.2	0.2	0.1	0.0						0.5	
SW	0.4	0.3	0.1							0.9	
WSW	0.8	0.5	0.2							1.5	
W	3.5	3.0	0.5	0.0						7.1	
WNW	6.0	6.5	1.6	0.0						14.2	
NW	9.5	9.7	6.7	0.5	0.0					26.3	
NNW	4.5	3.1	1.7	0.0	0.0					9.4	
CALM										17.9	
17-9	41.7	27.4	12.3	0.7	0.0						

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

35,036

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Point Permin

STATION NAME

September 1938 thru December

YEAR

ALL

BOATS

ALL WEATHER

CLASS

33°43', 118°17', 36'

LOCATION

ALL

MOVES (L.A.T.)

HEIGHT ABOVE GROUND

SPEED Mph DIR.	1-3	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	1.8	1.6	0.1	0.0							3.5	3.3
NNE	1.1	0.6									1.7	3.9
NE	6.0	5.1	0.1								11.2	4.2
ENE	1.1	1.3	0.0								2.4	4.9
E	2.7	2.7	0.0								5.5	4.8
ESE	0.4	0.3									0.7	4.5
SE	1.1	1.5	0.0	0.0	0.0						2.8	5.8
SSE	0.3	0.5	0.1								0.9	6.4
S	1.3	1.3	0.1								2.7	5.2
SSW	0.3	0.3									0.6	4.9
SW	0.8	1.5	0.1	0.0							2.4	6.3
WSW	0.4	1.2	0.1	0.0							1.7	7.4
W	1.3	7.4	0.9	0.0							9.7	9.6
WNW	0.9	7.9	1.6	0.1	0.0						10.5	11.6
NW	5.3	16.9	3.4	0.2							25.8	9.5
NNW	0.6	1.4	0.2	0.0							2.3	7.9
CALM											15.9	6.6
15.9	25.4	51.6	6.7	0.4	0.0						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 9,392

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Point Hueneme, CA August 1938 thru December 1941

ALL

MOON

ALL

MOON (L.R.T.)

STATION NAME

YEAR

ALL WEATHER

CLASS

34°09', 119°12', 16'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-15	16-31	32-47	>47							%	MEAN WIND SPEED
N	3.8	3.0	0.1									6.9	4.5
NNE	2.1	0.8	0.0									2.9	3.1
NE	5.7	4.4	0.5	0.1								10.7	5.3
ENE	1.4	2.0	0.7									4.1	8.2
E	1.2	1.3	0.3	0.0								2.8	7.3
ESE	0.4	0.6	0.1	0.0								1.1	8.9
SE	0.7	1.9	0.3	0.0								2.9	8.8
SSE	0.3	0.9	0.0									1.3	7.4
S	1.1	2.3	0.2									3.6	7.2
SSW	0.7	1.9	0.1									2.7	6.7
SW	1.3	4.0	0.2									5.5	7.2
WSW	0.5	4.2	0.3									5.0	8.9
W	1.9	14.1	2.6	0.2								18.8	11.2
WNW	1.4	9.5	1.1	0.1								12.1	10.4
NW	2.6	6.0	0.5									9.2	7.3
NNW	1.1	1.2	0.0									2.3	5.2
CALA													
8.3	26.3	57.9	7.0	0.4								8.3	7.4
												100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

7,120

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Point Montara, CA

February 1938 thru November 1941

STATION NAME

ALL

YEAR

ALL WEATHER

ALL

CLASS

37°32', 122°31', 62'

MOVES (L.T.T.)

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	0.1	1.3	0.2									1.6	9.9
NNE	0.1	0.1	0.1									0.2	10.6
NE	0.2	0.7	0.2	0.1								1.2	8.9
ENE	0.0	0.3	0.1	0.0								0.4	10.4
E	0.4	2.3	0.2									2.9	7.8
ESE	0.1	0.8	0.0									0.9	7.2
SE	1.0	5.2	1.0	0.1								7.3	10.1
SSE	0.3	2.1	0.7	0.1								3.2	12.2
S	0.8	7.1	1.2	0.1								9.2	10.4
SSW	0.2	1.3	0.1	0.0								1.7	9.7
SW	0.9	3.1	0.3	0.0								4.4	7.7
WSW	0.2	0.6	0.1	0.0								0.9	8.6
W	0.7	4.6	0.6	0.0								6.0	9.4
WNW	0.3	2.6	0.5	0.0								3.4	11.2
NW	2.3	25.5	4.2	0.4								32.3	10.8
NNW	0.2	2.2	0.3	0.0								2.7	11.1
CALA													
21.8	7.8	59.9	9.7	0.9								21.8	8.0
												100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

10,829

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93111

POINT MUGU, CALIFORNIA PMR

60-72

ALL

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

ALL

MOUSE (L.R.T.)

34°07', 119°07', 10'

LOCATION

93' until 1964, 13' since 1964

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	3.7	3.5	.8	.1	.0	.0	.0	.0				8.0	4.0
NNE	2.9	3.1	1.0	.2	.0	.0	.0	.0				7.3	4.7
NE	2.6	2.4	1.0	.9	.5	.2	.0	.0				7.7	7.0
ENE	1.3	1.0	.6	.9	.4	.2	.0	.0	.0			4.5	8.8
E	.5	.4	.2	.2	.0	.0	.0					1.3	5.7
ESE	.2	.3	.2	.1	.0	.0	.0					.8	6.6
SE	.3	.6	.8	.5	.1	.0	.0					2.2	8.6
SSE	.4	1.0	1.0	.5	.1	.0	.0	.0				2.9	7.5
S	.7	1.6	1.4	.4	.1	.0	.0	.0				4.2	6.6
SSW	.4	1.3	1.0	.1	.0	.0	.0					2.8	6.2
SW	.5	1.4	1.2	.1	.0	.0	.0					3.2	6.1
WSW	.6	2.0	2.1	.4	.0	.0	.0					5.2	6.8
W	1.7	5.1	8.2	3.0	.5	.1	.0	.0				18.7	8.2
WNW	1.5	2.6	2.4	1.1	.2	.1	.0					7.8	7.1
NW	1.8	1.9	.7	.1	.0	.0	.0					4.5	4.6
NNW	1.9	1.8	.4	.1	.0							4.1	4.1
CALA												14.8	
14.8	20.9	29.9	23.0	8.7	2.0	.7	.1	.0	.0			100.0	5.6

DATA FROM U. S. Navy

TOTAL NUMBER OF OBSERVATIONS

109069

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION	Point Piedras Blancas	DATE	June 1938 thru November 1942	ALL
STATION NAME		YEAR		POSTS
ALL WEATHER				ALL
CLASS				WINDS (L.R.T.)
	35040', 121017', 69'			
LOCATION				
	18'			
HEIGHT ABOVE GROUND				

SPEED MPH	1-3	4-15	16-31	32-47	>47						%	MEAN WIND SPEED
DIR.												
N	2.2	4.4	0.2								6.9	5.5
NNE	0.1	0.3	0.0								0.4	7.6
NE	1.1	1.6	0.1								2.7	5.9
ENE	0.2	0.7									0.9	5.7
E	1.7	2.4	0.2								4.3	5.6
ESE	0.2	1.5	0.3	0.0							2.0	9.6
SE	2.2	7.9	1.4	0.2							11.7	8.8
SSE	0.1	0.9	0.4								1.4	11.6
S	1.1	2.8	0.2								4.1	6.9
SSW	0.0	0.5	0.0	0.0							0.5	6.7
SW	0.4	0.8	0.0								1.3	5.6
WSW	0.1	0.4									0.4	6.5
W	1.4	3.4	0.4								3.2	6.9
WNW	0.1	1.9	0.8	0.0							2.9	12.8
NW	2.4	26.9	15.7	0.9	0.0						45.9	14.0
NNW	0.1	4.2	2.1	0.0							6.4	13.4
CALM												
3.0	13.4	60.7	21.8	1.2	0.0						3.0	10.7
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

69,496

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION Point Reyes, CA STATION NAME February 1938 thru December 1942 YEAR 1942 ALL MONTHS ALL

ALL WEATHER ALL MONTHS (L.A.S.)

CLASS 38°00', 123°00', 259'

LOCATION

HEIGHT ABOVE GROUND

WIND DIR.	1-3	4-15	16-31	32-47	>47					%	MEAN WIND SPEED
N	0.1	3.8	0.4							4.9	8.2
NNE	0.1	0.3	0.0							0.4	6.6
NE	0.2	0.6	0.1							1.0	6.8
ENE	0.0	0.2								0.2	9.0
E	0.5	2.9	0.3							3.7	8.4
ESE	0.2	0.8	0.1							1.0	8.3
SE	0.8	5.9	1.4	0.1	0.0					8.3	10.4
SSE	0.3	1.7	0.6	0.0						2.6	11.6
S	0.5	2.6	0.5	0.0						3.7	9.3
SSW	0.1	0.6	0.2	0.0						0.9	9.9
SW	0.9	3.1	0.3							4.3	7.2
WSW	0.2	0.5	0.0	0.0						0.7	6.8
W	1.3	4.0	0.2	0.0						5.4	7.0
WNW	0.4	2.6	0.4	0.0						3.4	8.9
NW	3.6	23.9	6.1	0.2	0.0					33.8	10.4
NNW	0.7	5.4	1.5	0.1						7.7	11.2
CAUA										17.9	
17.9	28.4	58.9	12.1	0.5	0.0					100.0	7.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

12,466

*Note: Weather Bureau Reports mean of 21.3 MPH for 1/11 - 2/27.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Pomona

1965-1974

STATION NAME

ALL

TEAM

ALL WEATHER

CLASS

34° 04', 117° 45', 850, 924 N. Garey Avenue

LOCATION

351

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

83,455

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

1935 thru 1938

Potrero Hill, CA (CAA)

ALL

STATION NAME

YEAR

DOYS

ALL WEATHER

CLASS

38°12', 121°58', 413'

LOCATION

ALL

DOYS (L.A.T.)

HEIGHT ABOVE GROUND

SPEED MPH DIRE.	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	4.4	2.3	0.6	0.0						7.4	
NNE	2.1	1.0	0.1	0.0						3.3	
NE	4.5	1.5	0.1							6.1	
ENE	0.7	0.1	0.0							0.8	
E *	1.4	0.1	0.0							1.5	
ESE	0.3	0.1								0.4	
SE	1.7	0.6	0.1	0.0						2.5	
SSE	0.7	0.5	0.1	0.0						1.3	
S	2.2	1.0	0.1	0.0						3.3	
SSW	1.7	1.5	0.1							3.2	
SW	10.8	14.8	0.4	0.0						26.1	
WSW	5.2	10.2	0.1	0.0						15.5	
W	6.1	10.8	0.2							17.0	
WNW	1.5	0.7	0.0							2.2	
NW	2.7	0.7	0.0							3.3	
NNW	0.7	0.4	0.1	0.0						1.3	
CALM											
5.0	46.7	46.1	2.1	0.0						5.0	
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

34,938

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

048W

Puente

1/1/55 - 12/31/60

2747102

STATION NAME

NAME

ALL

ALL WEATHER

CLASS

34° 01', 117° 59', 314, 749 S. 9th Ave

LOCATION

351

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

38,763

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Rancho Seco

STATION NAME

January 1974 thru December 1976

YEAR

ALL
DATA

ALL WEATHER

CLASS

38°34', 121°07', 170'

LOCATION

33'

HEIGHT ABOVE GROUND

*10 second observation
frequency

WIND (U.S.T.)

SPEED MPS DIR.	.5-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	> 10	%	AVERAGE WIND SPEED
N	.15	1.34	.96	.35	.17	.06	.04	.05	.03	.01	.05	3.21	2.58
NNE	.17	1.34	.54	.17	.05	.03	.01	.01			.02	2.35	2.11
NE	.17	1.46	.97	.16	.03	.01						2.80	1.93
ENE	.23	2.05	1.07	.17	.02	.01						3.55	1.86
E	.35	1.60	.97	.37	.09	.03	.00	.01		0.00	.01	3.44	2.06
ESE	.42	1.26	1.35	1.30	.70	.23	.06	.02	.02	.01	.01	5.38	2.86
SE	.52	1.58	1.97	1.76	.97	.47	.14	.08	.08	.07	.32	7.96	3.48
SSE	.64	1.87	2.22	1.73	.99	.57	.50	.36	.22	.24	.80	10.14	4.26
S	.69	2.18	2.12	1.21	.53	.32	.18	.16	.16	.03	.07	7.57	3.26
SSW	.46	2.31	2.02	1.14	.59	.13	.06	.03	.01	.02		3.44	2.86
SW	.27	1.99	1.86	1.00	.60	.31	.17	.08	.04	.01	.05	6.52	2.86
WSW	.12	1.95	2.57	2.21	1.71	.61	.43	.22	.09	.04	.02	12.26	3.13
W	.03	1.32	3.25	3.50	2.65	1.00	.38	.12	.05	.02	.01	12.81	3.57
WNW	.03	1.01	1.79	1.22	.49	.10	0.00	0.00	0.00	.02	.02	4.68	2.86
NW	.07	1.09	1.47	1.16	.86	.43	.25	.18	.13	.04	.10	5.78	3.69
NNW	.08	1.32	1.26	.85	.55	.61	.42	.33	.28	.22	.63	6.56	4.77
AVG.	.81	1.54	2.48	3.49	4.44	5.44	6.46	7.43	8.45	9.47	12.96		3.23
CALA	X	X	X	X	X	X	X	X	X	X	X	.43	
.43	4.41	25.67	26.44	18.89	10.79	5.20	2.66	1.66	1.05	0.70	2.10	100.00	

DATA FROM Sacramento Municipal Utility District

TOTAL NUMBER OF HOURS

25,893*

MPS = Meters per second, 1 MPS = 2.235 miles per hour

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

1929 thru 1938

Redding, CA

STATION NAME

YEAR

ALL WEATHER

CLASS

40°35', 122°24', 722'

LOCATION

HEIGHT ABOVE GROUND

ALL

DATE

ALL

MOUSE (L.R.T.)

SPEED METH DIR.	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	11.0	1.4	0.0								12.4	
NNE	1.6	0.2									1.8	
NE	2.7	0.2									2.8	
ENE	0.4	0.0									0.4	
E	1.8	0.0									1.8	
ESE	0.8	0.0									0.8	
SE	8.8	0.2	0.0								9.0	
SSE	2.0	0.3	0.0								2.4	
S	7.4	0.8	0.0	0.0							8.3	
SSW	1.3	0.1	0.0								1.4	
SW	4.2	0.2	0.0								4.4	
WSW	0.4	0.0									0.4	
W	2.4	0.1	0.0								2.5	
WNW	1.8	0.4									2.2	
NW	30.5	1.0									31.6	
NNW	5.4	0.2									5.6	
CALM												
12.2	82.7	5.1	0.1	0.0							12.1	
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

79,033

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Redondo-King Harbor

1/1/66 - 12/31/74

ALL
DEBTS

WAYNE

STATION NAME

1222

ALL WEATHER

CLASS

330 50', 118° 24', 10', Harbormaster

LOCATION

351

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS	
74,436	

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

STATION Reno, Nevada AP STATION NAME 1956 through 1960 YEARS ALL MONTHS ALL

CLASS ALL WEATHER SOURCE (U.S.F.) ALL

LOCATION 39° 32', 119° 49', 4531'

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-31	32-38	39-46	> 46	%	MEAN WIND SPEED
N	1.9	1.7	1.1	0.4	0.1	0.0	0.0			5.3	6.5
NNE	1.4	1.6	1.1	0.3	0.1	0.0				4.6	6.6
NE	2.4	2.0	1.0	0.2	0.0	0.0				5.6	5.3
ENE	1.1	0.7	0.4	0.1	0.0					2.4	5.2
E	1.2	0.7	0.3	0.1	0.0					2.3	4.8
ESE	1.2	0.7	0.2	0.1	0.0					2.2	4.6
SE	2.9	1.5	0.5	0.2	0.1	0.0	0.0			5.3	5.3
SSE	1.5	0.8	0.4	0.4	0.3	0.2	0.1	0.0		3.7	9.3
S	3.3	1.6	0.8	0.9	0.6	0.3	0.1	0.0		7.5	8.2
SSW	2.8	1.7	0.6	0.6	0.4	0.1	0.1	0.0	0.0	6.3	7.4
SW	3.5	1.8	0.7	0.5	0.2	0.1	0.0	0.0		6.8	5.6
WSW	1.4	0.6	0.4	0.5	0.1	0.0	0.0	0.0		3.1	7.3
W	1.5	0.7	0.7	1.0	0.2	0.0	0.0	0.0		4.2	8.8
WNW	1.8	1.3	1.7	2.9	1.4	0.2	0.0			9.3	11.8
NW	2.1	1.7	1.6	1.3	0.3	0.0				7.0	8.2
NNW	1.0	1.0	0.9	0.6	0.1	0.0	0.0			3.6	8.0
CALA										20.6	5.9
20.6	51.7	20.2	12.6	10.0	4.0	1.0	0.3	0.1	0.0	100	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 43,848

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23118

RENO NEVADA/STEAD AFB

STATION NAME

43-45, 52-66

YEARS

ALL

NORTH

ALL WEATHER

CLASS

ALL

MOON (L.R.T.)

39°40', 119°52', 5056'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	%	MEAN WIND SPEED
N	1.6	2.5	1.0	.5	.1	.0	.0				5.8	5.9
NNE	.5	.6	.4	.1	.0	.0	.0	.0			1.6	6.0
NE	.7	.9	.6	.2	.0	.0	.0				2.4	6.0
ENE	.4	.6	.4	.1	.0	.0					1.5	6.0
E	.9	1.7	.8	.2	.0	.0	.0				3.7	5.4
ESE	.6	1.1	.7	.1	.0	.0					2.6	5.8
SE	.8	1.4	.9	.3	.0	.0	.0				3.4	6.1
SSE	.4	.6	.5	.1	.0	.0	.0	.0			1.6	6.8
S	.6	.8	.6	.4	.2	.1	.0	.0	.0		2.7	8.0
SSW	.3	.5	.5	.7	.4	.1	.1	.1	.0	.0	2.6	12.3
SW	.9	1.4	1.4	1.9	.7	.2	.1	.0	.0	.0	5.8	11.3
WSW	.3	.7	1.3	1.9	.6	.2	.0	.0	.0	.0	5.0	11.6
W	1.0	2.5	3.9	3.8	1.0	.2	.0	.0			12.3	9.9
WNW	.6	1.7	2.3	1.7	.3	.1	.0	.0			6.8	9.0
NW	1.4	3.2	2.6	1.2	.2	.0	.0				8.6	7.1
NNW	1.0	1.8	1.1	.5	.1	.0	.0	.0	.0		4.6	6.7
CAUA											29.0	
29.0	11.7	21.2	19.2	13.9	3.6	1.0	.3	.1	.0	.0	100.0	5.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

140000

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Reseda

1965-1974

67A71M

STATION NAME

TRAIN

ALL

22

ALL WEATHER

34012'. 118° 32', 740, 18330 Gault Street

LOCATION

351

HEIGHT ABOVE GROUND

SPEED MPH	%	MEAN WIND SPEED
dir.		
N	10.1	6.9
NNE	3.0	5.1
NE	2.8	2.8
ENE	6.8	2.5
E S	14.3	2.4
ESE	7.1	2.1
SE	4.9	2.1
SSE	3.9	1.9
S	7.5	2.4
SSW	5.4	2.5
SW	4.8	2.4
WSW	7.1	2.8
W	9.7	2.2
WNW	5.6	2.9
NW	3.5	2.6
NNW	3.7	4.2
CALA		
	100.2	3.0

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

84.084

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Station Rice, CA AAF

June 1943 thru March 1944

ALL

YEAR

ALL WEATHER

CLASS

34° 04', 114° 50', 882'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH Dir.	1-3	4-12	13-24	25-31	32-46	≥ 47					%	MEAN WIND SPEED
N	0.5	2.3	0.6	0.1	0.0						3.6	9.0
NNE	0.1	0.9	0.3	0.1							1.4	10.1
NE	1.0	6.6	1.5	0.0							9.1	8.2
ENE	0.2	1.6	0.3								2.1	7.6
E	1.2	6.5	0.3	0.1								5.9
ESE	0.4	1.6	0.4									7.8
SE	0.7	6.2	0.5									6.9
SSE	0.1	1.7	0.7									10.0
S	0.8	5.0	0.9	0.0								7.8
SSW	0.2	1.6	0.4									8.3
SW	0.7	5.0	0.6	0.1								7.3
WSW	0.1	1.9	0.1	0.1								7.4
W	1.1	10.8	1.0	0.0								7.4
WNW	0.4	6.4	1.2									9.1
NW	0.9	16.3	5.4	0.2	0.0							10.1
NNW	0.1	1.0	0.6	0.1								11.8
CAUA												
0.2	8.5	75.6	14.9	0.8	0.0						0.2	8.3
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Riviera

07A7104 NANT

4

WATER

ALL WEATHER

CLASS

33° 58', 118° 06', 150', 8811 E. Slauson Ave.

LOCATION

301

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

154,626
TOTAL NUMBER OF OBSERVATIONS

-206-

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23119

RIVERSIDE CALIFORNIA/MARCH AFB

33-67

STATION

STATION NAME

YEAR

ALL MONTH

ALL WEATHER

CLASS

ALL

HOURLY (L.R.T.)

33°54', 117°15', 1529'

LOCATION

HEIGHT ABOVE GROUND

SPEED (KTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.7	1.1	.8	.3	.1	.0	.0	.0				4.0	5.9
NNE	.6	.5	.4	.1	.0	.0	.0	.0	.0			1.6	6.1
NE	1.7	.8	.8	.2	.0	.0	.0					3.6	5.2
ENE	.6	.4	.6	.3	.1	.0						2.0	6.9
E	1.6	.6	.6	.2	.0	.0	.0	.0				3.1	5.1
ESE	.6	.4	.2	.1	.0	.0						1.3	4.8
SE	1.9	1.0	.7	.2	.0	.0	.0	.0				3.8	4.6
SSE	.9	.8	.6	.2	.0	.0	.0	.0				2.6	5.6
S	1.8	.9	.7	.2	.0	.0	.0	.0				3.7	4.9
SSW	.4	.2	.1	.1	.0	.0	.0					.8	4.9
SW	.9	.3	.2	.1	.0	.0	.0	.0				1.4	4.3
WSW	.3	.2	.2	.1	.0	.0	.0	.0				.9	6.6
W	1.5	1.3	2.1	1.2	.3	.0	.0	.0				6.3	7.8
WNW	1.4	2.2	3.8	2.2	.2	.0	.0					9.8	8.2
NW	2.7	3.9	6.6	3.2	.2	.0	.0	.0				16.6	7.8
NNW	1.0	1.4	1.6	.6	.1	.0	.0					4.7	6.8
CALM												33.6	
33.6	19.8	15.8	19.9	9.3	1.3	.2	.0	.0	.0			100.0	4.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

286219

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

1951 - 1960

Sacramento Executive Airport

ALL

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

ALL

MOSES (L.B.T.)

38°31', 121°30', 17', height = 20

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	0-3	4-7	8-12	13-18	19-24	25-31	32-38	39-46	≥ 47	%	MEAN WIND SPEED
N	1	2	1	+	+	+	+	+		4	7.8
NNE	+	1	+	+	+	+	+			1	6.3
NE	1	1	+	+	+	+	+			2	4.8
ENE	+	+	+	+	+	+	+			1	5.4
E	1	1	1	+	+	+	+			3	5.8
ESE	+	1	1	+	+	+	+			3	7.3
SE	1	3	4	1	+	+	+	+	+	10	9.4
SSE	1	2	4	2	1	+	+	+	+	10	11.4
S	1	3	4	4	1	+	+	+		10	9.6
SSW	+	2	4	4	1	+	+	+		11	11.7
SW	1	3	5	5	1	+	+	+		15	11.7
WSW	+	1	1	1	+	+	+	+		4	8.7
W	1	1	1	+	+	+	+	+		3	6.1
WNW	+	1	1	+	+	+	+	+		3	7.0
NW	1	3	2	1	+	+	+	+		8	8.9
NNW	1	2	3	2	1	+	+	+		9	10.8
CALA	+	+	+	+	+	+	+	+			
5	10	28	31	18	5	1	+	+	+	5	9.3
										100	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

87,672

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

23206

STATION NAME
Sacramento, CA Mather AFB

1941 - 1967

ALL
MONTH

STATION NAME

YEAR

ALL WEATHER

CLASS

38°34', 121°18', 96'

LOCATION

13'

HEIGHT ABOVE GROUND

ALL
MONTH (L.A.T.)

SPEED Knots DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	56	%	MEAN WIND SPEED
N	0.9	1.3	1.2	0.7	0.2	0.1	0.0					4.3	7.7
NNE	0.5	0.5	0.3	0.1	0.0	0.0	0.0	0.0				1.5	6.3
NE	0.5	0.5	0.2	0.0	0.0	0.0	0.0					1.2	4.7
ENE	0.3	0.3	0.1	0.0	0.0							0.7	4.4
E	0.7	0.7	0.2	0.0	0.0		0.0	0.0				1.7	4.3
ESE	1.0	1.6	0.6	0.1	0.0	0.0		0.0				3.3	5.1
SE	1.5	3.2	2.9	0.7	0.2	0.1	0.0	0.0	0.0			8.6	7.1
SSE	1.2	3.2	4.2	1.3	0.5	0.2	0.1	0.0	0.0	0.0		10.9	8.7
S	1.5	3.5	5.2	1.8	0.4	0.2	0.1	0.0	0.0	0.0		12.6	8.2
SSW	1.1	2.5	3.9	1.8	0.2	0.0	0.0	0.0	0.0			9.6	8.2
SW	0.9	2.1	3.4	1.6	0.2	0.0	0.0	0.0				8.3	8.3
WSW	0.5	1.1	1.2	0.5	0.1	0.0						3.4	7.3
W	0.7	1.1	0.7	0.1	0.0	0.0	0.0					2.7	5.7
WNW	0.6	1.0	0.5	0.1	0.0	0.0						2.1	5.4
NW	0.8	1.4	1.0	0.3	0.1	0.0	0.0					3.5	6.2
NNW	0.7	1.6	1.7	0.9	0.3	0.1	0.0					5.3	8.4
CALM												19.9	
19.0	13.5	25.5	27.2	10.2	2.2	0.9	0.3	0.1	0.0	0.0	100.0	6.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

227,840

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Salinas, CA AAB August 1941 thru December 1944 ALL
STATION NAME YEAR MONTHS

ALL WEATHER

CLASS

36°41', 121°35', 72'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47					%	MEAN WIND SPEED
N	0.8	3.1	0.2	0.0							4.2	6.3
NNE	0.3	0.9	0.0	0.0							1.2	5.7
NE	0.5	0.6	0.0								1.1	4.5
ENE	0.3	0.4	0.0								0.6	4.8
E	0.7	1.1	0.1								2.0	5.5
ESE	0.4	2.6	1.2	0.0							4.3	9.8
SE	1.4	9.2	4.8	0.4	0.2	0.0					16.0	11.1
SSE	0.5	2.2	0.5	0.0	0.0						3.3	8.4
S	0.8	1.4	0.1	0.0							2.3	5.6
SSW	0.2	0.4	0.0								0.7	4.9
SW	0.8	1.5	0.2	0.0							2.5	5.6
WSW	0.4	2.4	0.5	0.0							3.4	8.2
W	1.4	8.1	2.9	0.1							12.5	9.5
WNW	1.0	8.9	4.3	0.1	0.0						14.3	10.3
NW	1.9	13.0	4.0	0.0							18.9	9.1
NNW	0.6	4.1	0.8	0.0							5.5	8.0
CALM											7.2	
7.2	12.0	60.0	19.8	0.8	0.2	0.0					100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

28,775

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

1965 - 1970

Sam Jones Site. HLMR

STATION NAME

YEAR

ALL

DATE

ALL WEATHER

CLASS

35°53', 121°08', 1,460'

LOCATION

10'

HEIGHT ABOVE GROUND

STATION

ALL

DATE

0000 (L.S.T.)

SPEED DIR.	1-3	4-7	8-12	13-18	19-24	25-31	>31			%	MEAN WIND SPEED
N										3.94	
NNE										10.70	
NE										11.21	
ENE										19.51	
E										8.04	
ESE										1.13	
SE										0.60	
SSE										0.85	
S										1.83	
SSW										6.83	
SW										9.46	
WSW										3.72	
W										0.99	
WNW										0.46	
NW										0.46	
NNW										1.48	
CALM										18.79	
18.79	53.32	18.96	5.47	0.37	0.08	0.01	0.00			100.00	

DATA FROM Hunter Liggett
Military Reservation

TOTAL NUMBER OF OBSERVATIONS

52,755

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93117

SAN CLEMENTE ISLAND, CALIFORNIA NWS 63-72

STATION

STATION NAME

YEAR

ALL

MONTH

ALL WEATHER

CLASS

ALL

HOURS (L.A.T.)

32°57', 118°32', 906'

LOCATION

17'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.9	1.4	.4	.2	.0	.0						2.9	5.2
NNE	.4	.5	.1	.1	.0	.0						1.2	5.2
NE	.3	.4	.2	.1	.0	.0						1.0	5.7
ENE	.4	.5	.3	.1	.0	.0						1.3	6.3
E	.4	.9	.7	.2	.0	.0						2.2	6.4
ESE	.3	.7	.7	.2	.0	.0						1.9	6.9
SE	.3	.5	.2	.1	.0	.0						1.2	5.6
SSE	.6	.8	.3	.1	.0	.0						1.8	5.2
S	1.6	2.6	1.1	.4	.1	.0						5.7	5.5
SSW	1.3	2.9	1.7	.4	.1	.0	.0					6.3	6.1
SW	1.4	3.3	1.7	.3	.0	.0						6.8	5.7
WSW	1.8	4.2	2.8	.5	.0	.0						9.1	5.9
W	2.5	7.6	8.1	2.4	.2	.0	.0					20.8	7.1
WNW	1.4	4.6	6.2	3.2	.7	.2	.0					16.3	8.5
NW	1.0	2.6	2.8	1.6	.5	.1	.0					8.7	8.5
NNW	.8	1.6	1.0	.4	.1	.0						3.8	6.5
CALM												8.8	
8.8	15.3	35.1	28.2	10.2	1.9	.4	.0					100.0	6.3

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

78600

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

January 1932 thru December 1938

STATION Sandberg STATION NAME ALL WEATHER CLASS 34°45', 118°44', 4,524' LOCATION 30' HEIGHT ABOVE GROUND

ALL MONTHS (L & T.)

SPEED MPH DIR.	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	5.8	4.1	0.2	0.0							10.2	
NNE	1.4	0.5	0.0								2.0	
NE	5.1	7.0	0.7	0.0							12.7	
ENE	1.1	2.6	0.3	0.0							4.1	
E	0.8	1.3	0.3	0.0							2.4	
ESE	0.4	0.2	0.0								0.6	
SE	0.8	0.2									1.0	
SSE	2.0	1.4	0.0								3.4	
S	8.2	4.7	0.1	0.0							13.0	
SSW	4.2	1.9	0.1								6.2	
SW	5.4	0.4	0.0								5.9	
WSW	0.8	0.0	0.0								0.8	
W	2.3	0.1									2.4	
WNW	1.1	0.5	0.0								1.7	
NW	9.0	11.4	1.1	0.1							21.5	
NNW	3.6	6.8	0.5	0.0							10.3	
CALM												
1.2	52.0	43.3	3.3	0.2							100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801
*From local climatological data.

TOTAL NUMBER OF OBSERVATIONS

54,682

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93112

SAN DIEGO, CALIFORNIA NWSF

45-72

STATION NAME

YEAR

ALL MONTH

ALL WEATHER

CLASS

ALL

ROUTE (L.B.T.)

32°42', 117°12', 24'

LOCATION

30'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	2.7	2.9	.9	.1	.0	.0	.0		.0			6.7	4.4
NNE	1.1	.9	.2	.0	.0							2.2	3.8
NE	.8	.5	.1	.0	.0							1.4	3.6
ENE	.5	.2	.0	.0	.0							.7	3.4
E	1.7	.7	.1	.0	.0	.0						2.5	3.1
ESE	1.6	.9	.1	.0	.0							2.7	3.4
SE	1.8	1.3	.3	.1	.0	.0						3.4	3.9
SSE	1.1	1.2	.6	.2	.1	.0	.0					3.2	5.4
S	2.0	2.7	1.5	.4	.1	.0	.0					6.6	5.5
SSW	1.2	2.2	1.9	.3	.0	.0		.0				5.6	6.0
SW	1.2	1.9	1.7	.4	.0	.0						5.2	6.1
WSW	.7	1.4	1.3	.3	.0	.0						3.8	6.3
W	1.5	3.0	3.8	1.2	.1	.0	.0					9.7	7.2
WNW	1.2	3.1	4.5	2.0	.2	.1	.0					11.1	7.9
NW	1.9	4.1	5.2	2.7	.1	.0	.0	.0				14.1	7.6
NNW	1.6	2.7	1.9	.7	.0	.0	.0					6.9	6.2
CALM												14.2	
14.2	22.8	29.7	23.9	8.6	.7	.2	.0	.0	.0			100.0	5.3

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

238011

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

San Diego, Lindbergh Field, CA

1951 - 1960

STATION

STATION NAME

ALL WEATHER

YEAR

ALL

DATA

ALL

MOON (L.A.T.)

CLIM

32°44', 117°10', 19'

LOCATION

19'

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-7	8-12	13-18	19-24	25-38	> 38		%	MEAN WIND SPEED
N	3	3	1	0					7	4.3
NNE	3	3	0	0					7	4.4
NE	4	4	0	0	0				8	4.3
NNE	2	2	0	0	0				4	4.8
E	2	1	0	0	0				3	4.0
ESE	1	1	0	0					2	4.7
SE	1	1	0	0	0				2	5.2
SSE	0	1	1	0	0	0	0		2	7.6
S	1	2	2	1	0	0	0		5	7.2
SSW	1	3	3	1	0	0	0		8	8.3
SW	1	3	3	1	0	0			8	7.4
WSW	1	3	3	1	0	0			8	8.0
W	1	3	3	1	0				8	7.3
WNW	1	3	5	1	0				10	8.3
NW	1	3	4	1	0	0			8	7.3
NNW	1	3	2	0	0				7	6.3
CALA	22	38	28	6	0	0	0		6	6.3
6									100	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

87,678

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

San Dimas

1/1/55 - 12/31/59

ALL

ALL WEATHER

CLASS

34° 06', 117° 48', 950', 122 N. San Dimas Ave.

LOCATION

30:

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS	
18,651	

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)KGI
045W

San Fernando

1/1/55 - 12/31/60

STATION	STATION NAME	YEAR	ALL MONTHS
	ALL WEATHER		ALL
	CLASS		ALL
	LOCATION		NOON (L.S.T.)

34° 17', 118° 27', 1170, 14808 Lassen Ave.

25'

HEIGHT ABOVE GROUND

SPEED MPH DIR.																			%	MEAN WIND SPEED
N																			8.2	5.3
NNE																			9.4	4.0
NE																			5.2	3.0
ENE																			2.2	2.4
E																			2.5	2.5
ESE																			6.2	3.8
SE																			13.0	4.8
SSE																			14.5	5.6
S																			7.6	4.1
SSW																			3.4	3.3
SW																			3.4	2.8
WSW																			3.1	3.7
W																			3.4	3.7
WNW																			1.9	3.5
NW																			6.0	7.4
NNW																			9.9	7.7
CALM																			99.9	4.7

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

34,777

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23234

SAN FRANCISCO CALIFORNIA WBAS

48-65

ALL

STATION

STATION NAME

YEAR

NORTH

ALL WEATHER

CLASS

ALL

HOURS (L.R.T.)

37°37', 122°23', 90'

LOCATION

20'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.3	.5	.4	.3	.1	.0	.0					1.7	8.3
NNE	.3	.7	.5	.2	.1	.0	.0					1.8	7.4
NE	.5	1.4	.1	.2	.0	.0	.0					3.3	6.5
ENE	.4	1.2	.7	.2	.0	.0						2.4	6.3
E	.5	1.1	.7	.1	.0	.0						2.4	6.0
ESE	.5	.9	.7	.2	.0	.0	.0					2.3	6.5
SE	.7	1.2	1.2	.5	.1	.0	.0					3.7	7.2
SSE	.6	.9	.7	.4	.1	.0	.0	.0	.0			2.7	7.1
S	.8	1.2	.7	.5	.2	.1	.0	.0	.0			3.5	8.0
SSW	.6	.9	.7	.6	.2	.1	.0	.0	.0			3.2	8.9
SW	.8	1.1	1.0	.8	.3	.1	.0	.0				4.1	8.3
WSW	.6	1.2	2.1	1.6	.5	.1	.0	.0				6.1	9.5
W	.9	2.0	4.5	5.6	2.9	1.1	.1	.0				17.0	12.3
WNW	.9	3.0	6.2	7.3	4.4	1.2	.1	.0				23.3	12.3
NW	.7	1.7	3.9	4.3	2.1	.3	.0					13.0	11.4
NNW	.3	.5	.6	.5	.1	.0	.0					2.0	8.9
CALM												7.4	
7.4	9.2	19.6	25.8	23.2	11.2	3.2	.4	.0	.0			100.0	9.5

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

150260

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Station NAME

Sangus, CA

January 1934 thru December 1938

ALL MONTHS

ALL WEATHER

CLASS

34 24', 118 33', 1,207'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	2.3	0.4	0.0							2.8	
NNE	0.7	0.2	0.0							0.9	
NE	2.4	1.5	0.0							4.0	
ENE	0.4	0.4	0.0							0.8	
E	0.9	0.1	0.0							1.0	
ESE	0.3	0.0								0.4	
SE	15.0	3.2	0.0							18.1	
SSE	3.7	0.8	0.0							4.5	
S	11.2	0.5	0.0							11.7	
SSW	0.9	0.0								1.0	
SW	4.3	0.2								4.4	
WSW	0.7	0.1								0.7	
W	3.1	0.1								3.2	
WNW	0.7	0.0								0.7	
NW	6.0	1.5	0.1							7.6	
NNW	1.0	0.5	0.0							1.5	
CALC	36.6	53.6	9.6	0.2						36.6	
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43,747

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

San Jose, CA

STATION NAME

ALL WEATHER

CLASS

37° 22', 121° 55', 60'

HEIGHT ABOVE GROUND

All

WILSON

ALL

MOVAS (L.O.T.)

SPEED MPH	0-3	4-15	≥ 16						%	MEAN WIND SPEED
N		7.3	0.3							
NE		0.7	0.0							
E		1.0								
SE		14.2	1.4							
S		6.8	0.1							
SW		3.8	0.1							
W		4.8	0.1							
NW		35.1	1.6							
TOTAL	X X X	X X X	X X X	X X X	X X X	X X X	X X X	X X X	100.0	
AVERAGE	22.7	73.7	3.6							

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

87.648

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

San Luis Obispo Co. AP

May 1951 thru April 1956

STATION NAME

ALL
POINTS

ALL WEATHER

YEAR

CLASS

ALL
SPEEDS (U.S.T.)

35°15', 120°40', 200'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-10	11-15	16-25	> 25							%	MEAN WIND SPEED
N	0.2	0.4	0.1	0.0	0.0							0.7	
NNE	0.0	0.1	0.1									0.1	
NE	0.2	0.4	0.0	0.1								0.6	
ENE	0.0	0.1		0.0								0.1	
E	1.6	1.6	0.2	0.1								0.1	
ESE	0.3	0.9	0.1	0.1	0.0							3.6	
SE	1.2	1.0	0.2	0.2	0.0							1.5	
SSE	0.3	0.5	0.1	0.1								2.7	
S	1.3	2.3	0.4	0.1								0.9	
SSW	0.2	0.8	0.1	0.0								4.1	
SW	1.9	1.9	0.2	0.0	0.0							1.1	
WSW	0.6	1.3	0.1	0.0								4.0	
W	5.8	22.8	10.4	9.7	0.8							2.1	
WNW	0.2	1.3	0.4	0.3	0.0							49.5	
NW	0.4	1.4	0.4	0.3								2.3	
NNW	0.0	0.2	0.1	0.1								2.6	
CAVA												0.3	
23.8	14.2	36.9	13.0	11.2	0.9							23.8	
												100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

17,786

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

San Miguel Is.

STATION NAME

February 1940 thru June 1942

YEAR

ALL

MONTH

ALL WEATHER

ALL

MOON (L.E.T.)

34°03', 120°21', 551'

CLASS

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47						%	MEAN WIND SPEED
N	0.6	0.8	0.1									1.6	5.1
NNE	0.3	0.7	0.1									1.1	5.1
NE	0.3	0.7										1.1	4.8
ENE	0.0	0.6	0.1									0.8	8.0
E	0.4	0.6	0.3									1.3	7.9
ESE	0.0	0.6	0.3									1.0	10.7
SE	0.6	1.2	0.6									2.5	9.2
SSE	0.0	1.4	2.0	0.5	0.4							4.4	18.2
S	0.7	1.9	0.7									3.4	8.4
SSW	0.1	1.8	0.7									2.8	11.4
SW	1.1	2.3	0.4		0.1							4.1	7.4
WSW	0.2	2.4	0.8									3.4	9.9
W	0.5	2.2	0.8									3.6	8.8
WNW	0.4	8.0	12.8	4.7	2.5	0.1						28.6	18.5
NW	1.5	5.9	5.6	2.9	2.2							18.2	17.3
NNW	0.1	3.3	10.5	5.0	3.1							22.1	21.6
CALM												.1	16.2
0.1	7.6	34.3	35.8	13.5	8.4	0.1						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

54,791

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93116

SAN NICOLAS ISLAND, CALIF PMR

45, 47-72

STATION NAME

TELE

ALL
MORTA

ALL WEATHER

CLASS

ALL
BOURSE (L.B.T.)

33°15', 119°28', 502'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.0	2.1	1.5	.5	.1	.0	.0	.0	.0			5.1	6.5
NNE	.6	.8	.4	.1	.0	.0						1.9	5.5
NE	.8	1.0	.4	.1	.0	.0						2.3	5.3
ENE	.4	.8	.6	.5	.2	.1	.0					2.5	8.7
E	.6	1.2	.8	.3	.1	.0	.0					3.0	6.8
ESE	.3	.5	.4	.1	.0	.0						1.3	6.6
SE	.4	.7	.5	.2	.0	.0						1.7	6.4
SSE	.2	.5	.4	.2	.0	.0						1.4	7.1
S	.5	1.1	.9	.4	.1	.0	.0					3.0	7.0
SSW	.3	.6	.6	.2	.1	.0						1.7	7.0
SW	.4	.9	.8	.2	.1	.0	.0					2.4	7.1
WSW	.3	.7	.6	.2	.1	.1	.0	.0				2.0	8.0
W	1.0	2.1	1.7	1.0	.3	.1	.0	.0				6.3	8.0
WNW	.6	1.9	3.4	3.7	1.4	.6	.2	.0				11.9	11.6
NW	1.2	3.7	8.9	12.5	6.8	3.5	.7	.1	.0	.0		37.4	13.5
NNW	.6	2.2	3.7	2.6	.8	.3	.1					10.4	10.0
CAUM												5.6	
5.6	9.2	20.9	25.5	22.7	10.1	4.8	1.1	.1	.0	.0		100.0	9.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

112227

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

San Pablo, CA

July 1929 through February 1939

ALL
MONTH

STATION NAME

YEAR

ALL WEATHER

ALL

MOSES (L.B.T.)

37° 59', 122° 21', 259

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH dir.	1-3	4-15	16-31	32-47	> 47						%	MEAN WIND SPEED
N	0.7	0.6	0.2	0.0							1.6	7.9
NNE	0.4	0.2	0.1								0.7	7.1
NE	3.2	3.2	1.1	0.0							7.4	7.8
ENE	0.1	0.1	0.1								0.2	11.1
E	0.9	0.7	0.1								1.7	5.4
ESE	0.0	0.0	0.0								0.0	8.8
SE	0.6	0.7	0.2	0.0							1.5	6.9
SSE	0.2	0.2	0.0	0.0							0.5	8.2
S	3.7	5.5	2.6	0.1							11.9	9.7
SSW	3.6	4.4	4.1	0.0							12.1	11.9
SW	6.8	13.5	7.7	0.0							28.0	11.1
WSW	0.1	0.1	0.0								0.2	7.7
W	1.5	2.2	0.6	0.0							4.2	8.7
WNW	0.1	0.1	0.0								0.2	9.4
NW	0.4	1.0	0.5	0.0							1.9	11.4
NNW	0.0	0.0	0.0								0.0	10.0
CALM												
27.9	22.2	32.5	17.2	0.1							27.9	7.3
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

18,487

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SNA
065W

Santa Ana OCAP

2/55 - 1/72

07/07/04

STATION NAME

TEAM

ALL

ALL WEATHER

33° 40', 117° 53', 54' ^{CLASS}

LOCATION	30'
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HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

68,841

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93114 STATION NAME SANTA ANA, CALIFORNIA MCAF YEAR 45-47, 51-72 ALL MONTH
33° 42', 117° 50', 62' CLASS ALL WEATHER ALL
10' LOCATION HEIGHT ABOVE GROUND HOUR (L.R.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	.5	.4	.1	.0	.0	.0	.0	.0				1.0	4.1
NNE	.3	.3	.1	.1	.0	.0	.0	.0				.9	6.6
NE	1.0	.7	.3	.4	.2	.1	.0	.0				2.8	7.4
ENE	.6	.7	.3	.3	.1	.1	.0	.0	.0			2.0	7.5
E	1.7	2.0	.4	.1	.0	.0	.0					4.2	4.4
ESE	.7	1.4	.4	.1	.0	.0	.0					2.6	5.1
SE	1.0	1.4	.6	.1	.0	.0	.0					3.1	5.1
SSE	.6	.9	.4	.1	.0	.0	.0	.0				2.0	5.5
S	1.2	1.6	.8	.2	.0	.0	.0					3.9	5.4
SSW	.7	1.9	1.7	.3	.0	.0	.0					4.5	6.3
SW	1.6	5.0	7.1	1.5	.1	.0	.0					15.2	7.2
WSW	1.2	4.6	6.4	1.5	.1	.0	.0					13.7	7.4
W	1.8	4.2	3.9	.9	.1	.0	.0	.0				11.0	6.7
WNW	.5	.9	.4	.1	.0	.0	.0	.0				2.0	5.9
NW	.5	.7	.2	.0	.0	.0	.0					1.4	4.5
NNW	.2	.3	.1	.0	.0	.0						.6	4.8
VARBL													
CALM												28.9	
28.9	14.2	27.0	23.0	5.7	.9	.3	.1	.0	.0			100.0	4.6

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801
TOTAL NUMBER OF OBSERVATIONS 130408

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

1960 through 1964

23190

Santa Barbara, CA

STATION NAME

ALL

DATA

ALL WEATHER

CLASS

340 26', 119° 50', 13'

LOCATION

ALL

DATA

WINDS (L.A.T.)

HEIGHT ABOVE GROUND

SPEED (KNOTS)	1-3	4-6	7-10	11-16	17-21	> 21				%	MEAN WIND SPEED
N	0.2	1.3	0.5	0.3	0.0	0.0				2.3	6.7
NNE	0.2	1.8	0.6	0.2	0.0	0.0				2.8	6.1
NE	0.5	3.0	1.0	0.1	0.0	0.0				4.5	5.5
ENE	0.3	2.4	1.5	0.1	0.0	0.0				4.4	6.2
E	0.2	2.1	2.0	0.4	0.1	0.0				4.8	7.2
ESE	0.1	1.2	1.8	0.7	0.1	0.0				3.8	8.1
SE	0.3	2.1	3.5	0.6	0.0					6.5	7.4
SSE	0.3	1.7	3.1	0.3	0.0					5.5	7.3
S	0.2	1.7	2.4	0.1						4.5	6.8
SSW	0.1	1.4	2.2	0.1						3.9	7.0
SW	0.3	1.7	3.4	0.7	0.0					6.1	7.7
WSW	0.2	2.1	5.0	2.5	0.2	0.0				10.0	9.1
W	0.2	1.6	2.7	1.9	0.2	0.0				6.6	9.2
WNW	0.1	0.7	0.7	0.7	0.2					2.4	9.4
NW	0.1	0.8	0.5	0.5	0.1	0.0				2.1	8.5
NNW	0.1	0.6	0.4	0.5	0.1	0.0				1.6	8.9
AVG	2.5	5.1	8.3	12.8	18.2	22.8				28.3	7.6
CALA										100.0	
28.3	3.4	26.3	31.2	9.7	1.1	0.1					

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

43,795

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Santa Catalina Is., Avalon, CA June 1943 through February 1944

STATION

STATION NAME

ALL WEATHER

CLASS

330 22', 1180 29', 450'

LOCATION

HEIGHT ABOVE GROUND

ALL
BOATS

ALL
BOATS (L.R.T.)

SPEED MPH Dir	1-3	4-12	13-24	25-31	32-46	≥ 47					%	MEAN WIND SPEED
N	0.3	0.7	0.0	0.0							1.1	6.9
NNE	1.5	3.6	0.3	0.1	0.0						5.5	6.5
NE	1.2	2.0	0.1								3.3	5.0
ENE	0.9	5.5	0.3	0.0							6.7	7.0
E	1.1	6.8	0.3	0.1	0.0						8.2	6.9
ESE	0.1	0.7	0.1	0.0	0.2						0.9	9.5
SE	1.7	6.9	0.8	0.2	0.2	0.2					10.0	8.8
SSE	0.4	1.4	0.3	0.1	0.0	0.0					2.4	10.3
S	0.3	1.6	0.1	0.1							2.2	7.7
SSW	0.4	1.3	0.2	0.0							1.9	7.0
SW	1.4	4.1	0.4	0.0							5.9	6.3
WSW	0.7	7.2	0.8								8.7	7.8
W	1.3	4.6	1.1	0.2	0.0						7.2	8.5
WNW	1.3	5.9	0.8	0.0	0.0						8.0	7.3
NW	1.0	5.5	0.5	0.0							7.0	6.9
NNW	2.1	7.5	0.4	0.1	0.1						10.2	6.5
CALM											10.8	6.5
10.8	15.5	65.4	6.5	1.1	0.5	0.2					100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

6,305

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Santa Catalina Island,
Buffalo Springs, CA

July 1939 through February 1942

ALL
PORTS

ALL WEATHER

ALL
MOVES (L.R.T.)

CLASS

33° 24', 118° 21', 1634'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	3.2	0.2	0.0								3.4	
NNE	0.7	0.1									0.7	
NE	3.8	0.7	0.0								4.5	
ENE	0.6	0.1									0.7	
E	2.9	0.3									3.2	
ESE	0.6	0.1									0.7	
SE	4.4	1.1	0.1	0.1							5.6	
SSE	0.7	0.2									0.9	
S	3.1	0.7	0.1								3.9	
SSW	1.4	0.2	0.0								1.6	
SW	19.5	3.9	0.1	0.0							23.4	
WSW	3.9	1.0	0.0								4.9	
W	5.7	2.0	0.1								7.8	
WNW	1.8	0.4									2.2	
NW	6.6	1.7	0.0								8.3	
NNW	1.3	0.1									1.4	
CALM												
26.7	60.1	12.7	0.4	0.1							26.7	
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

7,522

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

28273
SIX/7/58

Santa Maria, WBAS
STATION NAME

1948 thru 1958

ALL
DATE

ALL WEATHER

YEAR

34° 56', 120° 27', 230
CLAS

ALL
NUMBER (L.S.T.)

LOCATION

40'

HEIGHT ABOVE GROUND

SPEED Knots DIR.	1-3	4-10	11-21	22-27	28-40	> 40					%	MEAN WIND SPEED
N	0.5	1.1	0.7	0.0							2.2	8.5
NNE	0.3	1.0	0.9	0.1	0.0						2.3	10.0
NE	0.8	1.2	0.5	0.1	0.0						2.6	7.6
ENE	0.5	1.2	0.1	0.0	0.0						1.8	5.5
E	1.2	5.2	0.2								6.7	6.0
ESE	0.8	2.9	0.3	0.0	0.0						4.1	6.4
SE	0.8	2.9	0.8	0.1	0.0						4.6	7.7
SSE	0.4	0.9	0.5	0.0	0.0						1.8	8.5
S	0.5	0.8	0.2	0.0	0.0						1.6	6.4
SSW	0.4	0.7	0.2	0.0	0.0						1.3	6.5
SW	0.9	2.0	0.3	0.0							3.3	6.0
WSW	0.9	3.3	0.9	0.0							5.1	7.4
W	1.6	9.4	4.4	0.1							15.5	8.8
WNW	1.2	9.8	5.4	0.1							16.5	9.2
NW	0.9	4.5	1.2	0.0							6.7	7.5
NNW	0.3	1.0	0.2	0.0							1.5	6.6
CALM											21.8	6.1
21.8	12.0	47.9	16.8	0.6	0.1						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 92,700

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Station NAME Santa Rosa, CA AAF

April 1943 thru December 1945

ALL MONTHS

ALL WEATHER

ALL MONTHS

CLASS

WINDS (K.M.H.)

38°25', 122°45', 105'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47					%	MEAN WIND SPEED
N	1.1	4.1	0.8	0.0							6.0	7.8
NNE	0.3	0.9	0.3	0.1							1.6	9.1
NE	0.8	1.1	0.3	0.0							2.3	6.5
ENE	0.2	0.2	0.0								0.4	4.5
E	0.8	0.8	0.0								1.6	4.3
ESE	0.6	1.0	0.0	0.0							1.6	5.1
SE	3.4	9.1	0.8	0.0							13.3	6.2
SSE	1.1	6.2	1.1								8.4	7.8
S	2.6	10.0	1.7	0.0							14.3	7.4
SSW	0.6	2.9	0.6	0.0							4.2	8.2
SW	2.2	5.0	0.7	0.0							7.9	6.7
WSW	0.3	1.2	0.6	0.0							2.1	9.2
W	1.3	2.6	0.6	0.0							4.4	6.8
WNW	0.4	0.8	0.1	0.0							1.2	6.2
NW	1.6	4.2	1.7	0.1							7.7	8.5
NNW	0.3	1.8	0.6	0.0							2.7	9.3
CALA											20.3	5.8
20.3	17.5	51.7	9.5	0.4	0.1	0.0					100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

23,718

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Santa Rosa Is., CA

June 1943 thru February 1944

ALL

STATION NAME

YEAR

MONTH

ALL WEATHER

CLASS

ALL

NUMBER (L.A.T.)

33°55', 120°07', 1,348'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥47					%	MEAN WIND SPEED
N	0.6	3.5	2.3	0.4	0.1	0.1					6.9	12.2
NNE	0.3	1.2	0.2								1.7	7.9
NE	0.5	1.5	0.6	0.1	0.0	0.1					2.8	10.9
ENE	0.1	1.6	1.6	0.3	0.2	0.1					3.9	15.9
E	0.7	3.8	2.6	0.4	0.1	0.0					7.6	12.0
ESE	0.4	2.9	1.4	0.2	0.1						4.9	10.9
SE	0.7	3.1	0.5	0.1	0.0						4.5	8.5
SSE	0.4	2.0	0.5	0.1	0.0						3.0	9.0
S	0.4	1.9	0.7	0.0	0.0						3.1	9.1
SSW	0.3	1.1	0.6	0.1	0.2	0.1					2.4	14.0
SW	0.2	0.8	0.1								1.2	7.4
WSW	0.1	1.1	0.3	0.0							1.5	10.0
W	0.3	0.9	0.1								1.2	6.9
WNW	0.1	1.2	0.1								1.5	7.6
NW	0.4	3.6	3.6	1.6	1.8	0.2					11.1	19.4
NNW	0.9	8.6	14.4	8.4	9.3	0.8					42.5	22.5
CALM											0.2	16.8
0.2	6.4	38.9	29.6	11.8	11.8	1.3					100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE - N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 6,261

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

W150

Saugus SCE

STATION NAME

1959 - 1973

TEAM

A

776

ALL WEATHER

CLASS

34°24', 118°32', 1165', 25100 Henry Mayo Drive

LOCATION

45

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District

9420 Telstar Avenue

El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

112.820

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Silver Lake, CA (CAA) August 1940 thru July 1941

ALL

YEARS

STATION NAME

STATION

ALL WEATHER

ALL

WINDS (L.S.T.)

CLASS

35° 20' 116° 06' 925'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	> 47									%	MEAN WIND SPEED
N	3.2	0.8	0.0										4.1	
NNE	0.7	0.7	0.0										1.5	
NE	1.9	0.0											1.9	
ENE	0.3	0.0											0.3	
E	4.2	0.0											4.2	
ESE	2.7	0.1											2.8	
SE	17.8	0.3											18.1	
SSE	6.2	0.4											6.6	
S	10.2	0.7	0.0										10.9	
SSW	3.2	0.4											3.6	
SW	3.9	0.5											4.4	
WSW	1.4	0.7											2.1	
W	1.9	1.5	0.1	0.0									3.5	
WNW	1.7	0.8	0.1										2.5	
NW	5.0	0.4											5.3	
NNW	2.8	1.0	0.0										3.8	
CAUA													24.3	
24.3	67.1	8.3	0.2	0.0									100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

8,732

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Siskiyou Summit, Ore.

January 1934 - December 1938

ALL

STATION NAME

YEAR

ALL WEATHER

CLASS

42° 37', 123° 22', 1,171 M

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	4-15	16-31	32-47	48						%	MEAN WIND SPEED
N	0.9	0								0.9	
NNE	8.4	1.5								9.9	
NE	29.0	4.2								33.3	
ENE	2.6	0.1								2.7	
E	0.6	0								0.6	
ESE	0.2	0								0.2	
SE	0.3	0								0.3	
SSE	0.6	0.1								0.7	
S	2.6	0.4	0							3.0	
SSW	6.0	1.8	0							7.8	
SW	22.9	1.6	0							24.5	
WSW	5.0	0.1	0							5.1	
W	2.0	0								2.0	
WNW	0.3									0.3	
NW	0.4	0								0.4	
NNW	0.4	0								0.4	
CALM											
7.8	82.2	9.9	0							99.9	

Data from Columbia Basin Climatological Handbook

TOTAL NUMBER OF OBSERVATIONS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

January 1, 1968 thru December 31, 1970

STATION 104	STATION NAME
	Stue Mtn., Nevada (

ALL

ALL WEATHER

CLASS

39°18.5', 119°53', 9.650'

LOCATION

7 feet

HEIGHT ABOVE GROUND

[illegible]

DATA FROM Desert Research Institute,
University of Nevada, Reno, NV

	TOTAL hrs. OF OBSERVATIONS	20,228
1. Time spent by observer		
(a) Observing		
(b) Recording		
(c) Interviewing		
(d) Other		
2. Time spent by subjects		
(a) Responding		
(b) Thinking		
(c) Talking		
(d) Other		

$$*8.38 \text{ MPS} = 18.7 \text{ MPH}$$

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

Station Southeast Farallon Island

Date June 1935 thru December 1942

STATION NAME

ALL MONTH

ALL WEATHER

ALL MONTH (L.R.T.)

CLASS

37° 42', 123° 00', 39'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH	1-3	4-15	16-31	32-47	> 47							%	MEAN WIND SPEED
N	0.5	1.5	0.1	0.0								2.1	5
NNE	0.0	0.1										0.1	5.7
NE	0.7	2.0	0.2									2.8	6.9
ENE	0.0	0.4	0.2	0.0								0.6	12.0
E	0.6	3.0	1.3	0.0	0.0							4.9	11.3
ESE	0.0	0.2	0.1	0.0								0.3	13.7
SE	0.8	3.0	1.8	0.5	0.1							6.1	14.7
SSE	0.0	0.1	0.2	0.3	0.0							0.6	28.3
S	0.7	3.7	1.8	0.5	0.1							6.9	14.4
SSW	0.0	0.2	0.1	0.1								0.4	15.5
SW	1.2	4.4	1.2	0.2	0.0							7.0	10.2
WSW	0.0	0.2	0.1									0.3	13.1
W	1.4	5.6	0.7	0.0	0.0							7.7	8.2
WNW	0.1	0.6	0.3	0.0								0.9	12.8
NW	4.7	42.1	7.4	0.3								54.5	10.0
NNW	0.0	0.4	0.1	0.0								0.6	10.8
CALM												4.1	10.2
4.1	10.7	67.4	15.7	1.9	0.3							100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

16,646

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Stockton January 1941 - December 1945 Annual

STATION NAME

YEAR

MOON

ALL WEATHER

CLASS

MOON (L.T.T.)

37° 54', 121° 15', 26'

LOCATION

HEIGHT ABOVE GROUND

SPEED Knots Dir.	1-3	4-12	13-24	25-31	32-46	≥ 47					%	MEAN WIND SPEED
N	1.3	3.1	0.3								4.8	5.9
NNE	0.5	0.9									1.4	4.9
NE	0.7	1.1									1.9	4.4
ENE	0.4	0.5									0.9	4.1
E	1.1	1.9	0.1								3.0	5.0
ESE	0.5	2.1	0.4								3.1	7.6
SE	1.1	4.4	1.0								6.6	8.1
SSE	0.6	1.8	0.4								2.9	7.8
S	0.8	1.3	0.1								2.2	5.3
SSW	0.4	0.6	0.1								1.0	5.4
SW	0.9	2.1	0.4								3.4	7.0
WSW	0.5	4.0	1.8	0.1							6.4	10.1
W	2.8	13.3	2.7	0.1							18.8	8.0
WNW	1.4	10.4	1.4								13.2	7.9
NW	2.3	10.9	2.1	0.1							15.5	8.1
NNW	0.8	3.1	0.9	0.1							5.0	8.7
CALM											9.8	
9.8	16.0	61.6	11.7	0.6							100.0	6.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

47,320

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Math 70

Sun Valley

1/1/55 - 12/31/60

ALL

174724

STAY HOME STAY SAFE

NOTES

ALL WEATHER

CLASS

CLASS
34°13', 118°22', 1000', 11805 Sheldon Street

LOCATION

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

34,400

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23244
STATION

SUNNYVALE, CAL/MOFFETT FLD NWSE

45-72

ALL
MONTH

ALL
HOURS (L.R.T.)

ALL WEATHER
CLASS

37°25', 122°03', 40'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	2.3	3.4	3.0	1.4	.2	.0	.0	.0	.0			10.3	6.8
NNE	1.3	1.3	.6	.2	.0	.0						3.5	5.3
NE	1.0	.6	.2	.1	.0	.0						1.9	4.0
ENE	.5	.2	.0	.0	.0							.8	3.2
E	.9	.4	.1	.0	.0							1.4	3.3
ESE	.7	.5	.2	.1	.0	.0		.0	.0			1.6	4.9
SE	2.4	2.0	1.4	1.0	.3	.1	.0	.0				7.1	6.6
SSE	2.7	2.2	1.3	.8	.3	.1	.0		7.4	6.1		7.4	6.1
S	2.3	1.2	.5	.2	.1	.0	.0	.0				4.3	4.5
SSW	.9	.3	.1	.0	.0	.0	.0		1.3	3.4		1.3	3.4
SW	1.7	.5	.2	.0	.0	.0			2.4	3.3		2.4	3.3
WSW	1.2	.6	.3	.1	.0	.0	.0	.0				2.3	4.6
W	2.9	2.2	1.1	.4	.0	.0	.0		6.7	4.9		6.7	4.9
WNW	2.0	2.1	1.4	.7	.1	.0	.0					6.3	6.1
NW	2.0	2.7	3.0	1.8	.3	.0	.0	.0				9.8	7.4
NNW	1.7	3.3	5.6	4.6	.8	.0	.0					16.1	9.1
CALM												16.8	
16.8	26.5	23.7	19.1	11.5	2.2	.2	.0	.0	.0			100.0	5.3

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

238814

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND DIRECTION AND SPEED (FROM HOURLY OBSERVATIONS)

March 1938 thru Feb. 1941

Susanville

STATION

STATION NAME

ALL WEATHER

CLASS

40° 23', 120° 33', 4,220'

LOCATION

HEIGHT ABOVE GROUND

ALL
POSTS

ALL
POSTS (L.S.T.)

SPEED MPH DIR.	0-3	4-15	16-31														%	MEAN WIND SPEED
N	3.3	5.5	0.1														8.9	5.2
NNE																		
NE	1.6	1.4															3.0	4.1
ENE																		
E	3.9	3.7	0														7.6	3.8
ESE																		
SE	4.2	5.5	0.1														9.7	4.2
SSE																		
S	5.1	7.7	1.4														12.9	5.7
SSW																		
SW	3.1	16.3	2.6														20.8	7.8
WSW																		
W	3.3	18.6	0.2														24.5	9.1
WNW																		
NW	3.0	6.3															9.5	5.7
NNW																		
CALA																		
3.1	27.5	65.0	4.4														100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

2,865

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Taft, CA Gardner Field AAF Dec 1941 thru Feb 1945 ALL
YEAR

ALL WEATHER
CLASS

35° 06', 119° 19', 436
LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47												%	MEAN WIND SPEED
N	2.7	9.5	0.7		0.0													12.9	6.5
NNE	2.0	7.8	0.2	0.0														10.0	6.1
NE	1.7	5.3	0.1	0.0														7.1	5.8
ENE	0.9	1.8	0.0															2.8	5.1
E	1.3	2.0	0.0	0.0	0.0													3.4	4.7
ESE	1.0	1.1	0.2	0.1	0.1													2.4	6.0
SE	1.1	0.8	0.0	0.0	0.0													1.9	3.9
SSE	1.0	0.7	0.0															1.7	3.6
S	1.4	1.0	0.0	0.0	0.0													2.4	3.5
SSW	3.5	3.6	0.1	0.0														7.2	3.9
SW	4.9	11.7	0.4	0.0														17.1	5.2
WSW	3.1	10.8	1.3	0.0														15.3	6.5
W	1.2	1.2	0.1															2.5	4.3
WNW	0.9	1.1	0.1	0.0														2.1	4.6
NW	0.8	1.0	0.1	0.0														1.9	5.1
NNW	1.6	2.6	0.1		0.0													4.4	5.2
CALM																		4.9	5.2
4.9	29.2	62.2	3.5	0.1	0.1													100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

28,266

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NAME Tehachapi, CA AAF YEAR Nov 1944 thru Dec 1944 ALL MONTHS ALL

ALL WEATHER

CLASS

35° 08', 118° 27', 3,970'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	1-3	4-12	13-24	25-31	32-46	≥ 47	%	MEAN WIND SPEED
N	0.7	0.3					0.9	3.2
NNE	0.0	0.0					0.1	4.3
NE	0.7	0.5	0.1				1.3	4.9
ENE	0.2	1.0	0.3	0.0	0.0		1.5	10.5
E	1.7	5.0	0.8	0.1	0.0		7.6	7.5
ESE	0.7	5.9	1.6	0.0			8.3	9.0
SE	2.5	7.8	2.6	0.0	0.0		12.9	8.1
SSE	0.2	0.5	0.1				0.8	7.6
S	0.5	0.4	0.0	0.0			0.9	4.7
SSW	0.0	0.1	0.0				0.2	7.0
SW	0.8	1.4	0.1	0.0			2.4	5.6
WSW	0.3	2.7	0.3				3.4	7.8
W	1.9	10.5	1.4	0.0			13.8	7.4
WNW	0.7	10.0	2.9	0.1			13.7	9.6
NW	2.0	18.0	7.4	0.2	0.0		27.6	10.1
NNW	0.2	0.9	0.2				1.2	8.3
CALA								
3.4	13.1	65.1	17.8	0.5	0.1		100.0	
							3.4	8.4

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 18,706

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Temple City

5/19/55 - 6/27/60

1997

ALL WEATHER

34°07', 118°03', 400, 8838 E. Las Tunas Avenue

401
LOCATION

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

26,780
TOTAL NUMBER OF OBSERVATIONS

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

1500
TIT

Terminal Island

1952 - 1974

ALL
DEATHS

ALL WEATHER

CLASS

33°46'. 118°13'. 10'. Pier E

LOCATION

501

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

164.901

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

The Geysers, CA PG&E

Nov 1972 thru Oct 1974

ALL

STATION NAME

YEAR

BORTH

ALL WEATHER

CLASS

ALL

HOURS (L.R.Y.)

38°50', 122°37'

LOCATION

HEIGHT ABOVE GROUND

SPEED MPH DIR.	0-3	4-7	8-12	13-18	19-24	25-50	51-65	> 65	%	MEAN WIND SPEED
N	0.4	2.2	2.8	3.0	1.0	0.4	0.0		9.9	12.3
NNE	0.4	3.4	7.2	5.5	1.8	1.8	0.1	0.0	20.3	13.7
NE	0.3	1.3	2.9	1.9	0.9	0.7	0.0		8.0	13.5
ENE	0.1	0.4	0.7	0.3	0.1	0.1			1.6	10.9
E ^a	0.1	0.2	0.2	0.0		0.0			0.5	7.6
ESE	0.1	0.2	0.1	0.1					0.5	7.2
SE	0.2	0.3	0.6	0.3	0.1	0.0			1.5	10.1
SSE	0.2	0.3	0.5	0.7	0.4	0.5			2.6	15.7
S	0.5	1.8	1.7	1.0	0.7	0.8			6.5	12.5
SSW	0.7	2.6	3.0	2.2	1.0	1.4			10.8	13.1
SW	1.0	6.5	9.2	1.7	0.5	0.5			19.5	9.2
WSW	0.5	1.9	0.6	0.1	0.0	0.0			3.1	6.0
W	0.6	1.6	0.6	0.2	0.1	0.1			3.2	7.5
WNW	0.3	1.1	0.4	0.2	0.0	0.0			2.2	7.1
NW	0.4	1.7	1.3	0.7	0.1	0.0			4.3	8.3
NNW	0.3	1.6	1.7	1.3	0.5	0.1			5.6	11.1
CALM									0.0	11.4
0.0	6.0	27.3	33.7	19.2	7.3	6.4	0.1	0.0	100.0	

DATA FROM Pacific Gas & Electric Company

TOTAL NUMBER OF OBSERVATIONS

13,844

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Thermal FAA Jan 1957 thru Dec 1961 ALL
DATE 1961 1961 1961
CLASS ALL WEATHER 1961 1961
LOCATION 33°38', 116°10', -115° 1961 1961
HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-15	16-25	7-25						%	MEAN WIND SPEED
N	0.1	13.0	0.5	0.0						13.6	
NNE	0.0	2.0	0.0							2.1	
NE	0.0	1.1	0.0							1.1	
ENE	0.0	0.3	0.0							0.3	
E	0.0	0.4	0.0							0.4	
ESE	0.0	0.8	0.0							0.9	
SE	0.1	6.7	0.4	0.0						7.2	
SSE	0.0	9.1	0.7	0.0						9.9	
S	0.1	5.7	0.1							5.8	
SSW	0.0	1.0	0.0							1.1	
SW	0.1	1.2	0.0							1.3	
WSW	0.0	0.8	0.0	0.0						0.8	
W	0.1	1.4	0.1							1.5	
WNW	0.1	2.5	0.2	0.0						2.8	
NW	0.1	12.4	1.2	0.0						13.7	
NNW	0.1	21.3	4.3	0.1						25.7	
CALA										11.8	
11.8	1.0	79.5	7.6	0.1						100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 43,823

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

SCC
009W

Torrance - Shell

1/1/56 - 12/31/70

STATION NAME

TEAM

ALL

WAVES

ALL WEATHER

CLASS

33°53' 118°18' 10', 19821 S. Figeroa Street

LOCATION

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Teistar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

117.569

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23202

STATION NAME
TRAVIS AFB CALIF/FAIRFIELD

43-72

TEARS

ALL

BOYS

STATION NAME

ALL WEATHER

CLASS

ALL

BOYS (L.R.T.)

380 16', 1210 56', 59'

LOCATION

13'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	9	1.5	1.8	1.6	9	5	2	0	0	0		7.5	11.1
NNE	7	1.4	1.5	7	2	1	0	0	0	0		4.5	8.0
NE	6	1.0	8	2	0	0	0					2.6	6.2
ENE	4	6	4	0	0							1.4	5.4
E	5	7	3	0	0							1.4	4.7
ESE	3	3	1	0	0	0		0				1.8	5.2
SE	3	4	4	3	1	1	0	0	0			1.6	9.2
SSE	2	4	4	3	1	1	0	0	0	0		1.6	9.5
S	5	8	7	4	1	1	0	0				2.7	7.9
SSW	6	1.2	1.2	1.0	5	3	0	0				4.8	10.1
SW	1.1	3.0	6.3	8.7	5.8	3.0	8	0		0		28.6	13.8
WSW	8	2.3	5.0	8.6	4.3	1.7	3	0	0			23.0	13.4
W	6	1.1	1.2	1.1	4	1	0	0				4.6	9.5
WNW	3	3	1	0	0	0						8	5.3
NW	3	3	2	1	0	0	0		0			9	5.8
NNW	3	4	4	4	2	2	1	0	0			2.1	11.4
CALM												11.0	
11.0	8.3	15.7	20.9	23.5	12.9	6.1	1.5	1	0	0		100.0	10.3

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

254948

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

July 1942 thru March 1943

ALL	MONTH
-----	-------

STATION NAME

ALL WEATHER

ALL

MOVES (L.B.Y.)

34° 08' - 116° 02' - 1.778'

[illegible]

HEIGHT ABOVE GROUND

SPEED MPH Dir.	1-3	4-12	13-24	25-31	32-46	≥ 47				%	MEAN WIND SPEED
N	2.2	3.7	0.3	0.0	0.0					6.1	5.5
NNE	0.2	0.3	0.0							0.5	5.3
NE	0.5	0.9	0.0							1.4	5.1
ENE	0.1	0.4	0.0							0.5	7.0
E *	0.7	3.4	0.5	0.0						4.7	7.5
ESE	0.4	1.5	0.1							2.0	5.6
SE	1.2	2.8	0.3	0.0						4.4	6.2
SSE	0.3	0.2	0.1							0.5	5.6
S	0.7	1.4	0.2							2.4	6.2
SSW	0.3	0.4	0.3		0.0					1.1	8.9
SW	1.1	2.3	1.0	0.2	0.0					4.6	9.3
WSW	0.6	1.5	0.7	0.0	0.0					2.9	9.4
W	2.6	6.6	1.5	0.1	0.0					10.8	7.5
WNW	1.7	5.4	1.1	0.3	0.1	0.1				8.7	8.9
NW	5.7	24.0	2.3	0.3	0.1					32.3	6.9
NNW	1.2	4.6	0.3	0.0						6.2	6.2
CALL										10.9	6.4
10.9	19.6	59.4	8.7	1.0	0.3	0.1				100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C.: 28801

TOTAL NUMBER OF OBSERVATIONS

6,567

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23275
STATION

Ukiah, CA

STATION NAME

Jan 1955 thru Dec 1964

YEAR

ALL
DISTR

ALL WEATHER

CLASS

ALL

WINDS (L.S.T.)

39°08', 123° 12', 630'

LOCATION

HEIGHT ABOVE GROUND

SPEED DIR.	1-3	4-6	7-10	11-16	17-21	> 21					%	MEAN WIND SPEED
N	0.5	1.5	2.0	0.5	0.0						4.6	7.3
NNE	0.2	0.8	0.9	0.2	0.0						2.1	7.0
NE	0.3	0.6	0.3	0.0	0.0						1.3	4.7
ENE	0.1	0.3	0.1	0.0							0.5	4.9
E *	0.2	0.4	0.1	0.0							0.7	4.4
ESE	0.2	0.5	0.3	0.1							1.0	5.8
SE	0.3	1.2	1.4	0.5	0.0						3.4	7.4
SSE	0.3	2.0	3.2	1.5	0.1	0.0					7.0	8.4
S	0.3	1.3	1.1	0.2	0.0						3.0	6.7
SSW	0.1	0.4	0.3	0.0	0.0						0.8	6.3
SW	0.1	0.3	0.3	0.0	0.0	0.0					0.7	6.2
WSW	0.1	0.3	0.4	0.1	0.0						0.9	6.9
W	0.2	0.9	0.9	0.2	0.0						2.3	6.9
WNW	0.3	1.3	2.0	0.9	0.0						4.6	7.9
NW	0.6	1.6	2.5	0.7	0.0						5.4	7.5
NNW	0.3	1.2	2.0	0.6	0.0						4.1	7.6
Avg.	2.7	4.9	8.6	12.5	18.0	24.9						
CAU												
57.6	4.2	14.7	17.7	5.7	0.2	0.0					57.6	6.6
											100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

87,495

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Valencia, SCE - Pardee

1972 - 1974

STATION NAME

ALL WEATHER

CLASS

, 25625 W. Rye Cyn. Rd.

LOCATION

251

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

25.176

-252-

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93214 STATION VANDENBERG AFB CALIFORNIA 51-53 58-70 YEAR ALL MONTH

ALL
MOSES (L.R.T.)

ALL WEATHER
CLASS

34°43', 120°34', 381'

13' LOCATION

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.7	2.6	1.7	.8	.1	.0	.0					7.0	6.4
NNE	.8	.9	.5	.3	.0	.0	.0					2.5	5.6
NE	.7	.6	.2	.1	.0	.0						1.6	4.7
ENE	.5	.3	.1	.0	.0		.0					.9	3.7
E	1.5	2.1	.6	.1	.0							4.4	4.7
ESE	1.7	3.3	1.3	.3	.0	.0	.0	.0				6.7	5.3
SE	1.2	1.8	.9	.7	.2	.1	.0					4.8	7.1
SSE	.3	.3	.3	.2	.1	.0	.0					1.2	7.4
S	.3	.3	.3	.2	.0	.0	.0					1.2	7.5
SSW	.2	.2	.2	.1	.0	.0	.0					.7	6.8
SW	.3	.5	.4	.2	.0	.0						1.4	6.8
WSW	.3	.6	.7	.1	.0							1.7	6.4
W	.8	2.5	2.4	.3	.0	.0						6.1	6.4
WNW	.9	2.6	3.1	1.0	.1	.0	.0	.0				7.6	7.8
NW	1.9	5.5	8.2	4.9	1.1	.4	.0	.0				22.1	9.0
NNW	1.5	3.8	4.4	2.7	.6	.1	.0	.0				13.2	8.4
CAUA												16.9	
16.9	14.7	27.9	25.3	12.0	2.4	.7	.1	.0				100.0	6.1

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

115324

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

93219

VANDENBERG AFB/BOATHOUSE STN

66-67

STATION

STATION NAME

YEAR

ALL WEATHER

CLASS

34°43', 120°37', 78'

LOCATION

54'

HEIGHT ABOVE GROUND

ALL
MONTH

ALL
MONTH (L.R.T.)

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	2.9	1.6	1.7	1.2	.3	.2	.1					8.0	7.2
NNE	1.4	.4	.2	.2	.2	.0						2.5	6.0
NE	2.0	.9	.2	.1	.0							3.2	3.5
ENE	1.4	.8	.1	.0								2.4	3.3
E	3.0	1.4	.4	.3	.0	.1	.0					5.2	4.4
ESE	1.2	.7	.5	.4	.1	.1						3.1	6.5
SE	1.7	.9	.6	.7	.3	.1						4.2	6.8
SSE	.7	.3	.2	.1	.1	.0						1.4	6.0
S	1.3	.4	.2	.1	.0	.0						2.1	4.2
SSW	.6	.4	.1	.0								1.0	3.7
SW	1.3	1.1	.4	.0		.0						2.9	4.2
WSW	.7	1.1	.5	.1								2.4	5.1
W	1.4	1.3	1.8	.7	.1	.0	.1	.0				5.6	7.6
WNW	.8	1.5	2.6	3.1	.7	.5	.2	.1	.0			9.7	11.7
NW	1.9	2.7	5.6	7.0	2.1	1.4	.9	.5	.1			22.2	12.7
NNW	1.7	1.8	3.6	3.8	1.4	.7	.2	.1				13.2	10.9
CALC												11.0	
11.0	24.0	17.4	18.7	18.0	5.4	3.1	1.5	.7	.1			100.0	7.9

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

9313

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

LAVC
105W

Van Nuys LVC

1964 - 1967

ALL

TEAM

ALL WEATHER

CLASS, 5800 Fulton Avenue

ALL

1940 (L.R.V.)

LOCATION 301

HEIGHT ABOVE GROUND

[illegible]

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

28.665

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Van Nuys, CA ANGB
STATION NAME
October 1961 - August 1962
YEAR

ALL
MONTH

ALL WEATHER
CLASS

ALL
MONTH (L.R.T.)

34°13', 118° 30', 794'
LOCATION

HEIGHT ABOVE GROUND

SPEED DIR.	1-3	4-10	11-21	22-27	28-40	> 40						%	MEAN WIND SPEED
N	1.4	2.6	3.0	0.4	0.1							7.4	10.7
NNE	0.7	1.2	1.1	0.1	0.0							3.2	10.2
NE	1.5	1.4	0.4	0.1	0.0	0.0						3.5	6.3
ENE	0.7	0.6	0.0	0.0								1.4	4.4
E *	2.1	3.7	0.1	0.0								5.9	5.1
ESE	1.2	2.9	0.2									4.2	5.7
SE	3.3	10.1	0.6	0.0								14.0	6.1
SSE	1.2	3.9	0.2	0.0								5.3	6.1
S	1.9	2.7	0.1	0.0								4.9	5.2
SSW	0.5	1.0	0.1	0.0								1.5	5.5
SW	1.4	1.4	0.1									2.9	4.5
WSW	0.7	1.0	0.1	0.0								1.8	5.2
W	2.1	3.0	0.2	0.0								5.4	5.1
WNW	0.9	1.3	0.1	0.0								2.3	5.0
NW	1.7	1.5	0.3	0.0	0.0							3.5	5.2
NNW	0.6	0.8	0.7	0.1	0.0							2.1	9.4
CALA													
30.5	21.8	39.5	7.3	0.8	0.1	0.0						30.5	4.5
												100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 53,258

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

VEN 014W STATION NAME Venice STATION NAME 1/1/55 - 12/30/73 YEAR ALL MONTHS ALL MONTHS (U.S.T.)

ALL WEATHER CLASS 33°59', 118°29', 10', 2100 Ocean Front LOCATION 45' HEIGHT ABOVE GROUND

SPEED DIR.																		%	MEAN WIND SPEED
N																		3.5	4.4
NNE																		6.3	3.8
NE																		11.9	4.2
NNE																		7.5	4.3
E																		4.6	4.1
ESE																		2.2	4.3
SE																		2.1	4.5
SSE																		2.3	5.4
S																		3.7	5.4
SSW																		8.1	6.0
SW																		18.7	8.6
WSW																		16.3	9.7
W																		6.9	7.2
WNW																		2.2	5.1
NW																		1.6	5.7
NNW																		2.1	7.8
CAU																		100.0	6.5

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

150,177

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION NAME	YEARS
Visalia, CA	Jan 1932 thru Dec 1932

ALL
MONTH

СТАУЮН

All WEATHER

CLASS

36° 20', 119° 17', 354'

ALL
MOVIES (L.D.)

HEIGHT ABOVE GROUND

[illegible]

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

8,783

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

WNTT
106W
STATION

Walnut

STATION NAME

1965 - 1973

YEAR

ALL
DATA

ALL WEATHER

CLASS

18330 Gault Street

LOCATION

34°00', 117°51',

30'

HEIGHT ABOVE GROUND

ALL
DATA (L.R.T.)

SPEED MPH DIR.																		%	MEAN WIND SPEED
N																		1.0	3.8
NNE																		6.4	3.1
NE																		8.1	3.6
ENE																		9.3	4.3
E S																		7.3	4.8
ESE																		5.0	3.1
SE																		7.4	3.5
SSE																		10.8	4.5
S																		7.5	6.2
SSW																		13.2	7.3
SW																		5.9	7.1
WSW																		7.5	5.8
W																		6.1	4.5
WNW																		2.2	4.5
NW																		0.7	4.0
NNW																		1.5	3.3
CALM																		99.9	4.9

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

77,901

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Wasco 9NW

STATION NAME

March 1974 thru February 1975

YEAR

ALL

BOATS (L.R.T.)

ALL WEATHER

CLASS

35° 44', 119° 32', 230'

LOCATION

150'

HEIGHT ABOVE GROUND

SPEED MPS DIR.	.26- 3.00	3.0- 8.0	8.0														%	MEAN WIND SPEED
N	4.9	6.2	0.2														11.3	
NNE	2.5	1.5	0.0														4.0	
NE	2.1	0.8															2.9	
ENE	1.5	0.5	0.0														2.0	
E	1.6	0.5	0.0														2.1	
ESE	1.6	0.7	0.0														2.3	
SE	2.3	1.1	0.2														3.6	
SSE	2.8	1.8	0.2														4.8	
S	2.8	0.9	0.2														3.7	
SSW	2.2	0.6	0.0														2.8	
SW	2.2	0.6	0.0														2.8	
WSW	2.7	1.3	0.1														4.1	
W	3.4	4.6	2.6														10.6	
WNW	4.6	5.7	1.3														11.6	
NW	5.5	7.9	0.9														14.3	
NNW	6.2	9.2	1.4														16.8	
CALM																	0.1	
0.1	48.9	43.9	7.1														100.0	

DATA FROM Los Angeles Department of Water and Power

TOTAL hrs. of OBSERVATIONS 8,760

5 minute observ.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

Wasco 9NW

March 1974 thru Februaury 1975

ALL

MONTH

ALL WEATHER

CLASS

35° 44', 119° 32, 230'

LOCATION

30'

HEIGHT ABOVE GROUND

ALL

MOVES (L.R.T.)

SPEED MPS DIRE.	.26- 3.00	3.0- 8.0	8.0								%	MEAN WIND SPEED
N	4.8	3.0	0.0								7.8	
NNE	3.0	0.8									3.8	
NE	2.3	0.3	0.0								2.6	
NNE	2.0	0.3	0.0								2.3	
E	2.3	0.3									2.6	
ESE	3.0	0.5	0.0								3.5	
SE	4.2	1.0	0.0								5.2	
SSE	4.1	0.9	0.0								5.0	
S	4.1	0.5	0.0								4.6	
SSW	3.6	0.5	0.0								4.1	
SW	3.9	0.7									4.6	
WSW	4.4	1.5	0.0								5.9	
W	5.5	5.7	0.5								11.7	
WNW	5.7	4.3	0.5								10.5	
NW	6.7	5.0	0.3								12.0	
NNW	6.5	6.7	0.3								13.5	
CALA											Q.3	
0.3	66.1	32.0	1.6								100.0	

DATA FROM Los Angeles Department of Water and Power

TOTAL hrs. OF OBSERVATIONS 8,760
5 minute observ interval

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

WEST
102W
STATION

West Los Angeles

STATION NAME

1962 - 1973

ALL
MONTHS

ALL WEATHER

CLASS

34° 03', 118° 26', 90', 2351 Westwood Blvd.

LOCATION

35'

HEIGHT ABOVE GROUND

YEAR

ALL
MONTHS

DO NOT WRITE IN THESE SPACES

WIND DIR.	WIND SPEED	%	MEAN WIND SPEED
N		8.5	3.6
NNE		9.3	2.0
NE		5.9	2.1
ENE		4.3	2.3
E		4.9	2.9
ESE		2.8	2.8
SE		2.2	2.5
SSE		2.3	2.4
S		4.6	2.3
SSW		6.6	2.8
SW		16.3	4.2
WSW		18.6	4.6
W		6.2	2.9
WNW		1.8	2.2
NW		1.5	2.1
NNW		2.2	3.3
CALM			
		100.0	3.3

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

95,838

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

STATION Williams, CA STATION NAME Jan 1934 thru Dec 1938 YEAR ALL
ALL WEATHER ALL
CLASS BORES (L.A.T.)

39°06', 122° 09', 128' LOCATION

31' HEIGHT ABOVE GROUND

SPEED DIR.	0-3	4-15	6-31	32-47	> 47					%	MEAN WIND SPEED
N		4.8	1.3	0.1						6.2	
NNE		1.6	0.1	0.0						1.7	
NE		3.1	0.0							3.1	
ENE		0.9	0.0							1.0	
E		4.5	0.1							4.5	
ESE		3.6	0.3							3.8	
SE		14.9	2.4	0.1						17.4	
SSE		1.8	0.7	0.0						2.5	
S		3.0	0.5							3.5	
SSW		0.8	0.2	0.0						1.1	
SW		5.0	0.9	0.0						5.9	
WSW		1.5	0.4	0.0						1.9	
W		9.7	0.7	0.0						10.5	
WNW		1.7	0.1							1.8	
NW		11.5	0.9	0.0						12.4	
NNW		3.4	2.2	0.2						5.8	
CALM											
	17.0	71.8	10.8	0.4						17.0	
										100.0	

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS 43,777

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

A700

Wilmington

STATION NAME

1953 - 1961

ALL

WATER

ALL WEATHER

50724

33°46', 118°16', 10', ^{CLASS} Island and B. Street

LOCATION

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

44,392 77

Note: These data are available on an hourly basis.

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

M900

STATION NAME

1/1/55 - 12/31/59

ALL

ALL WEATHER

CLASS

Texas Oil Co.

LOCATION

HEIGHT ABOVE GROUND

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

28,003

-265-

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

WHTR
114W
STATION

Whittier

STATION NAME

1969 - 1973

YEAR

ALL
DIRECTIONS

ALL WEATHER

CLASS

33°56', 118°02', 350', 14427 Leffingwell Rd.

LOCATION

30'

HEIGHT ABOVE GROUND

WIND DIR.	WIND SPEED	%	MEAN WIND SPEED
N		4.8	2.8
NNE			
NE		4.3	2.7
ENE		5.2	3.1
E		7.8	3.1
ESE		7.6	3.1
SE		4.3	3.1
SSE		4.7	3.0
S		6.9	3.5
SSW		11.5	4.1
SW		9.2	4.9
WSW		5.4	5.0
W		7.2	5.4
WNW		10.2	4.4
NW		4.7	3.9
NNW		2.9	4.5
CALM		3.0	3.7
		99.7	3.9

Data from South Coast Air Quality Management District
9420 Telstar Avenue
El Monte, CA 91731

TOTAL NUMBER OF OBSERVATIONS

38,705

Note: These data are available on an hourly basis.

SURFACE WINDS

PERCENTAGE FREQUENCY OF WIND
DIRECTION AND SPEED
(FROM HOURLY OBSERVATIONS)

23195
STATION

YUMA ARIZONA IAP

STATION NAME

48-71

YEAR

ALL
MONTH

ALL WEATHER

CLASS

32°40', 114°36', 20'

ALL
MONTH (L.R.T.)

LOCATION

20'

HEIGHT ABOVE GROUND

SPEED (KNTS) DIR.	1-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	41-47	48-55	≥56	%	MEAN WIND SPEED
N	1.0	3.4	3.1	1.8	.4	.1	.0					9.7	8.0
NNE	1.0	3.4	2.6	.7	.1	.0	.0					7.7	6.6
NE	.8	2.1	1.1	.2	.0	.0	.0					4.3	5.8
ENE	.5	1.1	.4	.1	.0	.0	.0					2.2	5.7
E	.7	1.0	.3	.1	.0	.0	.0					1.1	5.8
ESE	.4	.8	.4	.1	.0	.0	.0					5.8	8.9
SE	.6	1.4	1.9	1.6	.3	.0	.0					8.5	9.5
SSE	.5	1.9	3.0	2.6	.4	.0	.0					8.4	7.8
S	.8	2.6	3.2	1.6	.1	.0	.0					4.9	7.1
SSW	.6	1.7	1.8	.7	.0	.0	.0					5.6	6.2
SW	.8	2.6	1.9	.3	.0	.0	.0					5.7	6.5
WSW	.6	2.6	2.1	.4	.0	.0	.0					7.3	7.5
W	.7	3.0	2.5	.9	.2	.1	.0	.0				6.9	8.2
WNW	.6	2.5	2.2	1.3	.3	.1	.0	.0	.0			4.3	6.9
NW	.6	1.8	1.3	.5	.1	.0	.0					5.1	7.8
NNW	.6	1.7	1.8	.9	.1	.0	.0						
CALM												9.6	
9.6	10.8	33.8	29.6	13.8	2.1	.3	.0	.0	.0			100.0	6.7

DATA FROM NATIONAL CLIMATIC CENTER
FEDERAL BUILDING - ASHEVILLE, N.C., 28801

TOTAL NUMBER OF OBSERVATIONS

160705

1058

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